



CITY OF BRADFORD.

ANNUAL REPORT

OF THE

MEDICAL OFFICER

1915.

BRADFORD :

WM. BYLES AND SONS LTD., PRINTERS, KIRKGATE.



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STATISTICAL SUMMARY.

Situation: Latitude 53° 4' N.; Longitude 1° 7' W.

Elevation: 251—1207 feet.

Area of City: 22,880 acres, or $35\frac{1}{2}$ sq. miles.

Density of Population: 12·3 persons per acre.

Number of Inhabited Houses: 72,100.

Population, A: Census (1911), 288,458.

B: Estimated (middle 1914), 291,482.

C: Civil Estimated (middle 1915), 280,737.

Birth-rate (on population B): 17·36 per 1000.

Death-rate (on population C): Recorded, 16·90 per 1000.

Zymotic, 1·22 per 1000.

Phthisis, 1·25 per 1000.

Infantile Mortality, 123 per 1000 births.

Total Rainfall: 35·68 inches.

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HEALTH COMMITTEE.

THE RIGHT HONOURABLE THE LORD MAYOR.

MR. COUNCILLOR E. J. SMITH, Chairman.

MR. COUNCILLOR H. T. PULLAN, Deputy Chairman.

MR. ALDERMAN M. CONWAY, MR. ALDERMAN A. PICKLES,

,, S. HORSFALL, „ A. PRIESTMAN,

,, A. PEEL, „ H. M. TROTTER,

and MR. ALDERMAN W. WARBURTON.

MR. COUNCILLOR J. DRAKE, MR. COUNCILLOR J. H. PALIN,

,, J. A. GUY, „ L. J. PARKER,

,, J. HARRISON, „ E. PRIESTLEY,

,, O. HOLDEN, „ J. STRINGER,

,, S. KAY, „ D. WALKER,

,, J. MOSER, „ H. WILMAN.

HEALTH SUB-COMMITTEES.

Accounts Committee :—

THE LORD MAYOR.

ALDERMAN PEEL.

COUNCILLORS HARRISON, MOSER, PULLAN, SMITH, STRINGER,
D. WALKER, and WILMAN.

Housing Committee :—

THE LORD MAYOR.

ALDERMEN—CONWAY, HORSFALL, PICKLES, PRIESTMAN,
TROTTER, and WARBURTON.

COUNCILLORS DRAKE, HOLDEN, KAY, MOSER, PALIN, PARKER, PRIESTLEY,
PULLAN, SMITH, STRINGER, and D. WALKER.

Nuisances Committee :—

THE LORD MAYOR.

ALDERMEN CONWAY, HORSFALL, PICKLES, PRIESTMAN, TROTTER,
and WARBURTON.

COUNCILLORS DRAKE, GUY, HARRISON, HOLDEN, KAY, PALIN,
PARKER, PRIESTLEY, PULLAN, and SMITH.

MEDICAL OFFICER'S DEPARTMENT,

TOWN HALL, BRADFORD,

31st July, 1915.

To the Chairman and Members of the Health Committee.

GENTLEMEN,

I have the honour to present to you the Annual Report of the Health of the City for the year 1915.

The Birth-rate for the year was 17·36 per 1,000 of the population, being a decrease of 2·28 per 1,000 from that of 1914. The Birth-rate in Bradford is very low compared with that in other towns.

The Death-rate was 16·90 per 1,000, being an increase of 1·14 over that of the previous year. The Zymotic Death-rate was 1·22 per 1,000, being the same rate as last year, and the Infantile Mortality Rate was 123 per 1,000 children born. The Death-rate from pulmonary tuberculosis was 1·25, the rate in 1914 was 1·27 per 1,000.

It gives me great pleasure to report the excellent work done by all the members of the staff.

I have in conclusion to aeknowledge with thanks the kindness and assistance which I have at all times received from the Chairman and Members of the Committee.

I am, Mr. Chairman and Gentlemen,

Your obedient servant,

JOHN J. BUCHAN,

Medical Officer of Health.

I.—VITAL STATISTICS.

(A) POPULATION.

The estimated civil population of the City at the middle of 1915 was 280,737. The population at the census of 1911 was 288,458, and that of 1901, 279,767.

The distribution and density of the population in the different wards of the City is seen in the following table :—

DISTRIBUTION AND DENSITY OF POPULATION.

Wards	Population, Census 1911	Estimated Civil Population, 1915	Area of Wards in Acres	Persons per Acre
Allerton	11,698	11,514	2864	4·0
Bolton	8,912	8,682	1001	8·7
Bradford Moor	23,037	22,664	680	33·3
East	16,629	16,16	385	41·9
East Bowling	17,771	17,279	565	30·6
Eccleshill	10,471	10,322	1221	8·5
Exchange	3,101	2,837	118	24·0
Great Horton	23,415	23,002	1289	17·8
Heaton	17,734	17,382	883	19·7
Idle	7,520	7,472	1693	4·4
Listerhills	16,142	15,309	321	47·7
Little Horton	16,389	15,829	425	37·2
Manningham	22,941	22,500	449	50·1
North	12,158	11,709	353	33·2
North Bierley East ..	12,013	11,634	2419	4·8
North Bierley West ..	10,109	9,993	1836	5·4
South	14,366	13,793	303	45·5
Thornton	5,544	5,363	2251	2·4
Tong	7,365	7,270	2659	2·7
West	10,035	9,509	162	58·7
West Bowling	21,108	20,548	1003	20·5
City	288,458	280,737	22,880	12·3

POPULATION ARRANGED ACCORDING TO AGE AND SEX DISTRIBUTION.

Age Period	Males		Females	
	1911	1915 (Civil)	1911	1915 (Civil)
Under 1	2490	2508	2388	2405
1—2	2325	2342	2297	2314
2—3	2474	2495	2416	2433
3—4	2508	2526	2339	2356
4—5	2426	2443	2356	2373
5—10	11701	11789	12095	12188
10—15	12254	12346	12709	12807
15—25	24087	20765	29103	29324
25—35	23432	19010	28415	28631
35—45	20185	18539	23330	23506
45—55	14997	15111	17571	17705
55—65	9189	9259	11587	11674
65	5402	5443	8382	8445
All ages	133470	124576	154988	156161

At the census of 1911 there were 155,678 persons unmarried ; the number of married persons at that time was 114,368, this being 39·6 per cent. of the total population, as compared with 36·4 per cent. in England and Wales.

The average density of population varies from 2·4 persons per acre in Thornton Ward to 58·7 in the West Ward.

The number of inhabited houses in Bradford at the middle of 1915 is estimated at 72,100, which gives an inhabited house rate of 4·03 persons per house.

(B) BIRTHS.

The number of births registered in the 52 weeks ending January 1st, 1916, was 5,062, of which 2,591 were males and 2,471 females. This gives a birth-rate for the year of 17·36 per 1,000, a decrease of 2·28 per 1,000 from that recorded last year.

BIRTH-RATE IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	20·8	20·1	20·9	19·1	19·0	19·0	19·2	19·6	19·6	17·4
96 Great Towns	27·9	27·0	27·0	25·7	25·0	25·6	24·9	25·1	25·0	22·8
England & Wales	27·0	26·3	26·5	25·6	24·8	24·4	23·8	23·9	23·8	21·8

The birth-rate in Bradford is very low compared with that in most other towns. The fall in the Bradford birth-rate is shown on the chart following page 22 and in Table A, page 22.

Locally the birth-rate varied from 12·91 in North Bierley West Ward to 25·93 in the West Ward.

The births in each ward in the four quarters of 1915 are seen on the table on the following page.

BIRTHS IN WARDS IN EACH QUARTER OF 1915.

Wards	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Total.
Allerton	50	48	41	40	179
Bolton	33	39	31	23	126
Bradford Moor	118	109	105	92	424
East..	77	83	71	67	298
East Bowling	96	113	88	69	366
Eccleshill	42	40	49	45	176
Exchange	16	18	12	11	57
Great Horton	90	72	84	68	314
Heaton	52	64	79	60	255
Idle	33	38	32	21	124
Listerhills	64	74	74	65	277
Little Horton	95	76	75	68	314
Manningham..	127	99	112	101	439
North	69	61	80	34	244
North Bierley East	48	42	54	53	197
North Bierley West	32	40	31	31	134
South..	99	98	78	58	333
Thornton	17	27	16	14	74
Tong	40	28	30	28	126
West	76	68	60	52	256
West Bowling	102	98	75	67	342
City	1376	1335	1277	1067	*5062

* Seven of these births were born outside the district, the home address in Bradford not being obtainable.

Illegitimacy. Of the 5,062 births registered during 1915, 318 or 6·3 per cent. were illegitimate. Although this rate is higher the total number of illegitimate births is less than last year.

ILLEGITIMATE BIRTHS.

	1907	1908	1909	1910	1911	1912	1913	1914	1915
Number	249	289	278	300	260	293	311	342	318
Percentage to Total Births ..	4·3	4·8	5·0	5·5	4·7	5·2	5·4	6·0	6·3

(C) DEATHS.

The total number of deaths occurring in Bradford in 1915 was 4,617, but after adding those deaths of Bradford persons occurring outside the city and deducting those occurring in the city of persons resident outside, the number becomes 4,745. The death-rate corrected for public institutions is therefore 16·90.

DEATH-RATE IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford ..	16·2	14·7	15·7	14·6	14·3	15·0	14·5	15·1	15·7	16·9
96 Great Towns ..	15·9	15·4	14·9	15·6	14·3	14·0	14·6	14·7	14·7	15·6
England & Wales ..	15·4	15·0	14·7	14·5	13·4	14·6	13·3	13·4	14·0	15·1

The death-rate for 1915 is therefore 1·2 per 1,000 above that of the previous year. The death-rates for the past thirty years is seen on Table A, page 22. The average death-rate per 1,000 for five-yearly periods from 1870 is as follows:—

AVERAGE QUINQUENNIAL DEATH-RATES FROM 1871.

1871-75 ..	25.9	1891-95 ..	19.7	1911-15 ..	15.5
1876-80 ..	22.3	1896-1900	17.9	— ..	—
1881-85 ..	19.9	1901-05 ..	16.3	— ..	—
1886-90 ..	20.9	1906-10 ..	15.1	— ..	—

In making a comparison between death-rates it is necessary to allow for differences in the age and sex distribution of the population, but on account of the change in the constitution of the population during 1915 a standardising factor cannot be applied.

The deaths occurring in each Ward for each quarter of 1915 is seen on the Table on the following page. The greatest comparative natural increase has occurred in Allerton Ward, while in Exchange, Great Horton, Listerhills, North Bierley West, Thornton, West Bowling there has been a natural decrease.

The Wards with the lowest death-rates have been Allerton, Bolton, Heaton and Thornton—all under 14 per 1000—while the Wards with the highest death-rates have been Exchange, West, South and North—all over 20 per 1,000. In these latter Wards the average death-rate is practically twice that in the former.

The death-rate among the male population has been 18.0 and among the female population 16.0 per 1,000.

The death-rate in Bradford compared with England and Wales is shown on the chart following, page 22.

DEATHS IN WARDS IN EACH QUARTER OF 1915.

Wards		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1915
Allerton		33	36	25	35	129
Bolton		31	35	17	25	108
Bradford Moor		112	75	92	105	384
East		58	61	51	62	232
East Bowling		77	87	76	54	294
Eccleshill		43	41	26	38	148
Exchange		16	26	16	16	74
Great Horton		111	103	68	74	356
Heaton		62	50	47	62	221
Idle		31	28	24	26	109
Listerhills		90	65	54	74	283
Little Horton		64	82	82	67	295
Manningham		108	103	73	68	352
North		64	64	59	52	239
North Bierley East ..		54	52	34	47	187
North Bierley West ..		48	47	40	45	180
South		84	70	76	86	316
Thornton		23	18	12	22	75
Tong		29	29	25	26	109
West		67	66	46	67	246
West Bowling		98	82	71	93	344
City		1321	1239	1024	1161	4745

In the West Riding Lunatic Asylums and other Institutions outside the district there were 236 deaths of persons ordinarily resident in Bradford, but in reference to 64 of them no address was returned, consequently it was impossible to refer them to any particular municipal ward.

BIRTH AND DEATH RATES IN EACH WARD.

	Wards.					Birth-rate per 1000	Death-rate per 1000
Allerton	14·97	11·20
Bolton	13·98	12·44
Bradford Moor	18·02	16·94
East	17·80	14·39
East Bowling	20·40	17·01
Eccleshill	16·42	14·34
Exchange	19·34	26·08
Great Horton	13·15	15·48
Heaton	14·13	12·71
Idle	15·99	14·59
Listerhills	17·43	18·49
Little Horton	19·11	18·64
Manningham	18·79	15·64
North	20·07	20·41
North Bierley East		16·31	16·08
North Bierley West		12·91	18·01
South	23·26	22·91
Thornton	13·29	13·98
Tong	16·69	14·99
West	25·93	25·87
West Bowling	16·03	16·74
City	17·36	16·90

Mortality at Different Ages. The following Table shows the total deaths in each age group during the past six years.

NUMBER OF DEATHS IN EACH YEAR AT DIFFERENT AGE PERIODS.

Ages	1910	1911	1912	1913	1914	1915
Under 1 year	695	765	553	741	693	622
1—2 years	208	161	136	152	190	213
2—5 "	158	153	119	105	171	168
5—15 "	124	145	146	133	142	174
15—25 "	165	185	180	163	177	186
25—45 "	525	630	599	584	543	616
45—65 "	1106	1150	1156	1253	1328	1315
over 65 "	1135	1162	1313	1343	1336	1451

Infantile Mortality. There were 622 deaths of infants under one year of age which gives an infantile mortality rate of 123 per 1,000 births. It will be seen that the number of infant deaths is comparatively small, but on account of the much lower number of births the infantile mortality rate shows little change.

INFANTILE MORTALITY IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	152	124	143	116	127	140	99	128	122	123
Great Towns	155	127	128	118	115	140	101	117	114	117
England & Wales	133	118	121	109	106	130	95	109	105	110

A discussion of infantile and child mortality will be found later in this Report.

Mortality between one and sixty-five years. The number of deaths between these ages in 1915 was 2,672, which gives an annual death-rate per 1,000 living at these ages of 10·2. The corresponding rates in the Great Towns and England and Wales were 9·2 and 8·5 per 1,000 living.

Mortality over sixty-five years. There were 1,451 deaths of persons aged sixty-five and upwards which gives an annual death-rate per 1,000 living of 104·5. The corresponding rates in the Great Towns and England and Wales for 1915 were 96·6 and 92·4 per 1,000 living.

Deaths in Public Institutions. In 1915, 1,237 deaths of Bradford residents occurred in Public Institutions, or 26·1 per cent. of the total deaths.

DEATHS IN PUBLIC INSTITUTIONS.

Name of Institution.	1913	1914	1915
Bradford Union Hospital	525	549	618
North Bierley Union	65	58	56
Giggleswick Union	2	4	6
Barnsley Union	—	—	10
Other Poor Law Institutions	5	2	4
Menston Asylum	46	49	56
Wakefield Asylum	1	2	—
Storthes Hall Asylum	13	21	23
Scalebor Park Asylum	2	—	2
Other Asylums	5	1	4
Royal Infirmary	200	176	196
Children's Hospital	108	81	65
Eye and Ear Hospital	9	10	9
St. Catherine's Home	18	16	13
Other Voluntary Hospitals	1	—	2
Leeds Road Hospital	97	69	116
Bierley Hall Hospital	1	5	7
City Infants' Hospital	—	3	11
North Bierley Joint Hospital	4	4	9
Calverley Joint Hospital	—	1	—
Thornton Joint Hospital	—	—	2
Eldwick Sanatorium	1	—	—
Other Institutions	9	7	8
Total	1112	1058	1237

It will be noted that in 1915, 694 deaths, or 14·6 per cent. of the total deaths occurred in Poor Law Hospitals; 105 deaths or 2·2 per cent. in Lunatic Asylums; 285 deaths, or 6·0 per cent., in Voluntary Hospitals; and 145 deaths, or 3·1 per cent., in Municipal Hospitals.

The age incidence of deaths in Public Institutions is shown in the following Table:—

	Poor Law Hospitals	Lunatic Asylums	Voluntary Hospitals	Municipal Hospitals	Other Institutions	Total	Per cent. of Deaths at each age
Under 1	63	—	53	16	—	132	21·2
1—2	17	—	14	12	—	43	20·2
2—5	4	—	13	24	—	41	24·4
5—15	10	2	28	29	1	70	40·2
15—25	16	2	20	16	—	54	29·0
25—45	89	37	49	29	2	206	33·4
45—65	231	37	82	15	3	368	28·0
65 and over	264	27	26	4	2	323	—
Total	694	105	285	145	8	1237	26·1

Certification of Deaths. 4,310 deaths, or 90·8 per cent., were certified by medical practitioners, and 432, or 9·1 per cent., by the coroner after inquest, and 3, or 0·1 per cent., were uncertified. The table on the following page shows the causes of death as found at the inquests held.

SHOWING THE NUMBER OF INQUESTS HELD, AND VERDICTS RETURNED
DURING THE YEAR ENDED 31ST DECEMBER, 1915.

CAUSE OF DEATH.	Wilful Murder.	Manslaughter.	Temporary Insanity.	Intemperance.	Anthrax.	Accidents.	Natural and Unknown Causes.	Open Verdicts.	Totals.	Remarks.
Violence ...	I	...	...	...	...	...	...	...	I	
Burns and Scalds	25	...	4	29	
Railway	I	...	...	1	
Motor Vehicles	I3	...	...	I3	
Other Conveyances	I1	...	...	I1	
Machinery	8	...	...	8	
Falls	42	...	2	44	
Suffocation	10	...	...	10	
Drowning	I	...	2	3	
Poisoning	2	4	...	I	7	
Intemperance	10	...	...	...	...	10	
Other Causes	I	...	...	8	...	4	I3	
SUICIDES—										
Drowning	4	...	...	...	...	4	8	
Hanging	8	...	...	...	...	...	8	
Poisoning	I2	...	...	...	...	2	I4	
Other Means	3	...	...	...	...	I	4	
Natural and Unknown Causes	248	...	248		
TOTALS ...	I	...	28	10	2	I23	248	20	432	

There were also 68 cases where, after enquiries were made, it was found that Inquests were unnecessary.

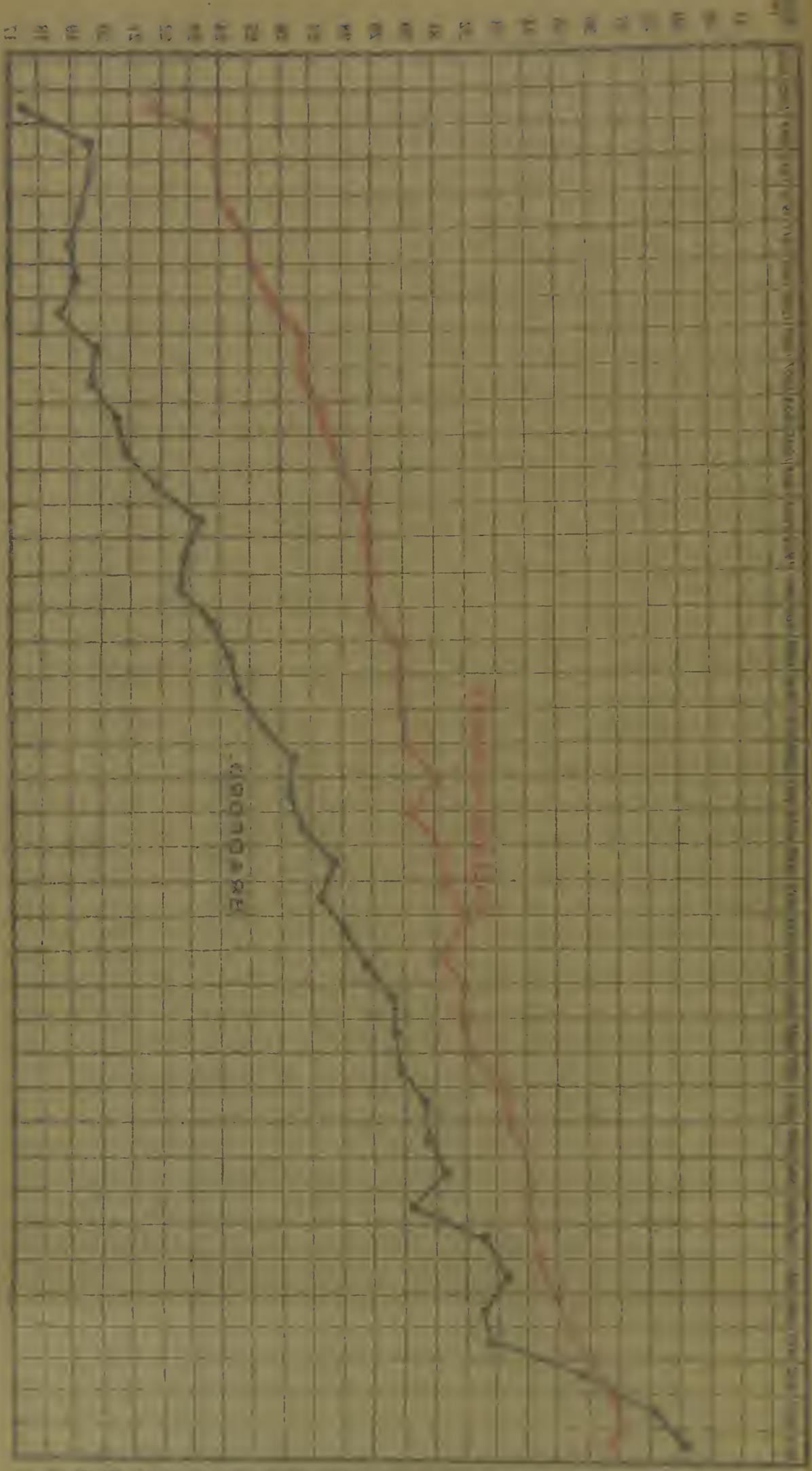
TABLE A.

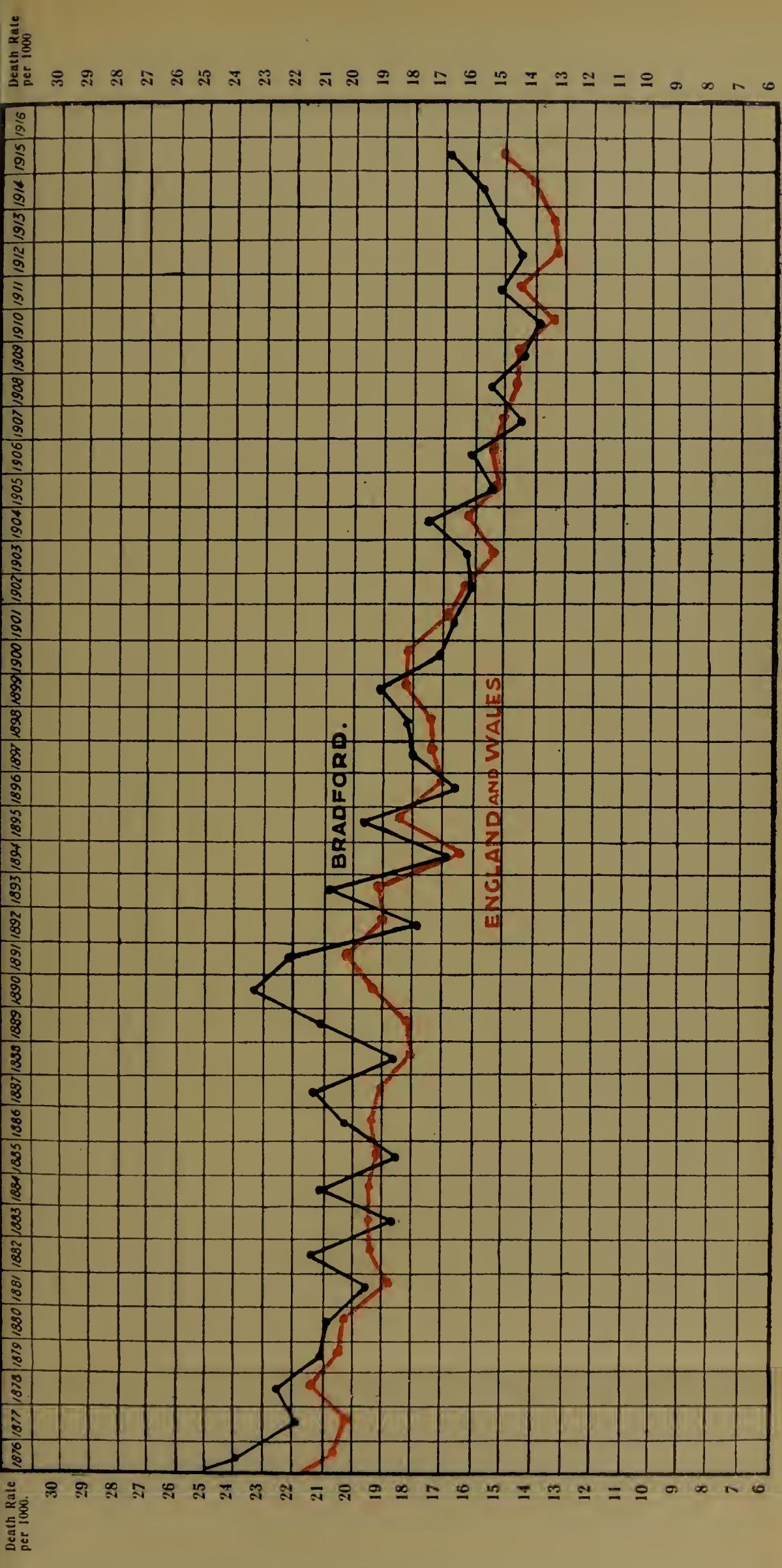
VITAL STATISTICS OF BRADFORD FROM 1886.

Year	Population	Birth Rate	Death Rate	Zymotic Death Rate	Infantile Mortality Rate
1886	205,684	30.6	19.1	2.24	167
1887	207,887	29.8	19.9	2.61	179
1888	210,113	29.8	17.2	1.59	153
1889	212,364	29.5	19.1	2.76	181
1890	214,634	29.1	20.1	2.38	169
1891	216,808	28.7	22.0	2.34	181
1892	217,805	27.4	18.0	1.59	155
1893	219,008	27.9	20.9	3.20	198
1894	220,218	27.1	17.0	1.69	144
1895	221,435	26.6	19.8	2.57	203
1896	222,658	26.7	16.8	1.59	143
1897	223,895	25.4	17.4	2.24	179
1898	225,133	24.8	17.5	2.20	184
1899	226,373	24.3	18.4	2.43	181
1900	228,634	24.1	17.1	1.43	141
1901	229,969	23.0	16.7	1.86	168
1902	230,833	23.3	15.7	1.38	138
1903	231,799	23.4	16.2	1.32	148
1904	232,568	22.2	17.4	2.43	167
1905	233,441	21.3	15.3	1.45	144
1906	234,314	20.9	16.2	1.97	152
1907	235,189	20.1	14.7	0.91	124
1908	236,071	21.0	15.7	1.46	143
1909	236,954	19.2	14.6	0.68	116
1910	237,839	19.1	14.3	1.26	127
1911	238,723	19.0	15.0	1.60	140
1912	239,618	19.3	14.5	0.82	98
1913	240,540	19.6	15.1	1.10	128
1914	241,482	19.6	15.7	1.22	122
1915	*240,737	17.4	16.9	1.22	123

* Civil population.







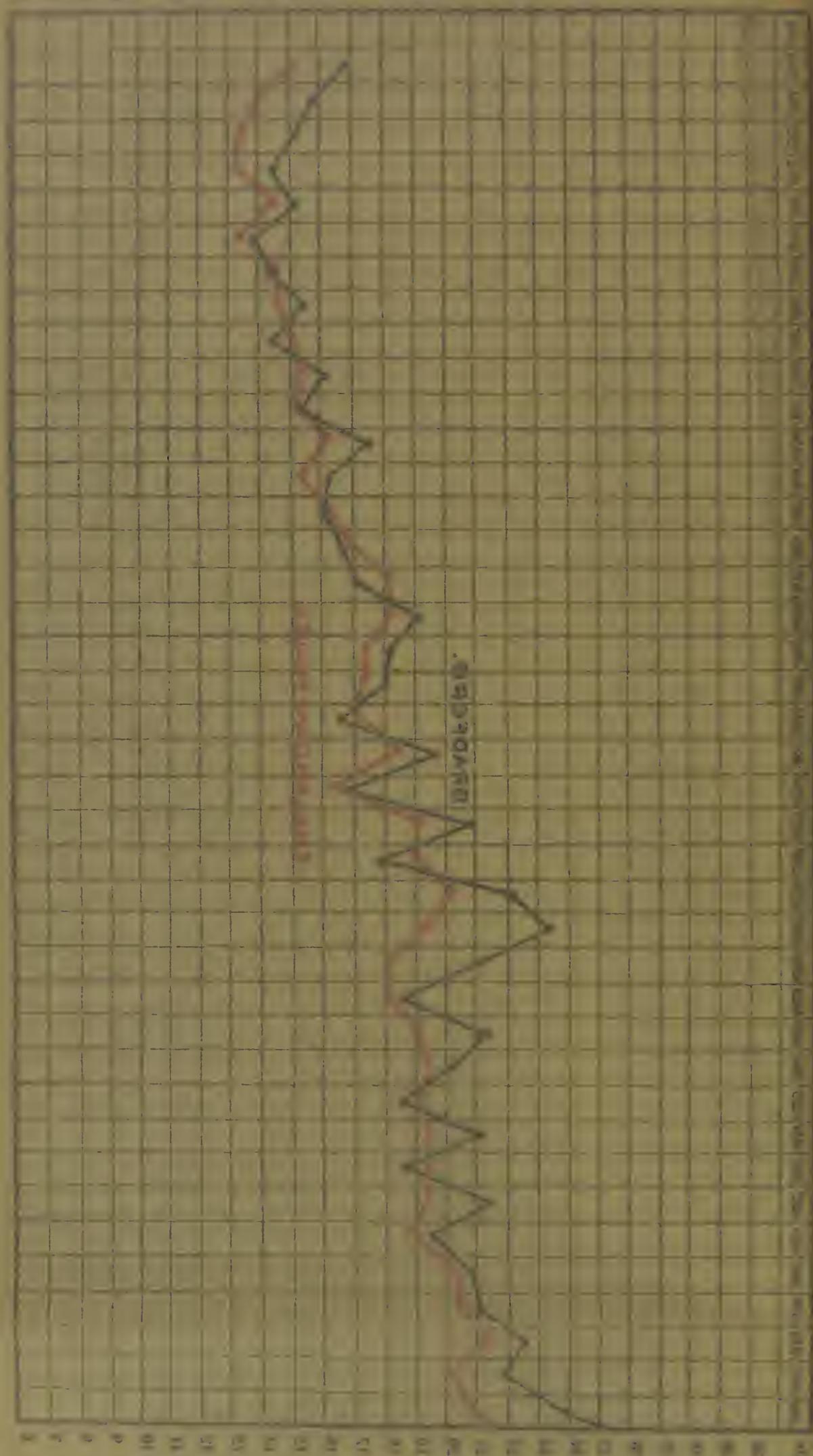


TABLE B.

COMPARATIVE STATISTICS OF GREAT TOWNS.

	Population	Birth Rate	Death Rate	Zymotic Rate	Infantile Mortality Rate
Birmingham ..	864,545	24·4	14·7	1·53	117
BRADFORD	280,737	17·4	16·9	1·22	123
Bristol ..	352,859	20·2	15·6	1·26	1·6
Halifax ..	99,497	16·6	16·9	0·81	98
Huddersfield ..	111,139	17·3	16·1	0·76	108
Hull ..	269,530	24·8	16·6	1·57	120
Leeds ..	446,349	21·7	16·9	1·35	125
Leicester ..	225,907	20·7	14·9	1·36	125
Liverpool ..	740,162	28·2	19·3	2·03	132
London ..	4,310,030	22·6	16·1	1·60	112
Manchester ..	700,319	22·9	17·3	1·72	126
Newcastle ..	278,107	27·7	17·2	1·91	133
Nottingham ..	240,588	20·7	16·6	1·27	129
Portsmouth ..	202,441	20·2	16·3	1·53	87
Salford ..	219,979	22·9	18·4	2·64	132
Sheffield ..	476,012	25·4	17·0	2·73	133
Stoke-on-Trent	225,405	26·9	18·4	2·08	148
West Ham ..	294,396	28·4	16·0	1·85	111

II.—RECORDS OF DISEASE.

(A) THE ZYMIC DISEASES.

The principal Zymotic diseases at present recognised in this country are Enteric Fever, Diphtheria, Scarlet Fever, Smallpox, Typhus Fever, Infective Enteritis, Measles, and Whooping Cough.

The total deaths from these diseases in Bradford in 1915 was 342, giving a mortality rate for this group of 1.22 per 1,000. In England and Wales this rate was 1.29, and in the 96 Great Towns 1.56 per 1,000.

The Zymotic death-rates during the past thirty years in Bradford are seen on Table A, page 22. It will be seen that the Zymotic death-rate for 1915 was the same death-rate as that for 1914. The mean death-rates from Zymotic diseases for periods of five years show that though temporary fluctuations have occurred this death-rate has been continuously falling.

AVERAGE QUINQUENNIAL ZYMIC DEATH-RATES FROM 1871.

1871-75 ..	5.5	1891-95 ..	2.3	1911-15 ..	1.2
1876-80 ..	3.1	1896-1900 ..	2.0		
1881-85 ..	2.1	1901-05 ..	1.7		
1886-90 ..	2.3	1906-10 ..	1.3		

The Zymotic death-rate for the first quarter was 0.74; for the second 0.97; for the third 1.87; and for the fourth 1.30.

The diseases to be notified in Bradford are smallpox, cholera, diphtheria, membranous croup, erysipelas, scarlet fever, ophthalmia neonatorum, infective enteritis, acute poliomyelitis, cerebro-spinal fever, tuberculosis, and the fevers known by any of the following names, typhus, typhoid, enteric, relapsing, continued or puerperal.

The number of notifications received from medical practitioners during the year was 1720.

NOTIFICATIONS FOR THE PAST 10 YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Scarlet Fever	1047	633	815	1238	870	595	634	529	469	499
Typhoid Fever	236	110	148	81	110	196	256	81	80	93
Smallpox Continu'd	2	—	—	—	—	—	2	—	—	2
Fever	1	—	—	—	2	1	—	—	1	—
Relapsing Fever	—	—	—	—	—	—	1	—	—	—
Cerebro-Spinal Fever	—	2	2	1	—	—	2	—	2	3
Puerperal Fever	12	20	18	18	16	26	16	15	21	30
Diphth'ra and Croup	480	277	393	353	337	481	422	449	318	425
Ophth'lma Neona-torum..	—	—	—	—	—	—	—	—	72	85
Erysip'las Poli'mye-litis ..	224	192	195	215	170	293	233	225	241	232
Infective Enteritis	—	—	—	—	—	—	2	3	2	—
Total	2002	1234	1571	1906	1505	1592	1568	1302	1490	1720

These numbers do not include the notifications of chickenpox required from time to time, nor notifications of tuberculosis.

Diphtheria. Cases, 425; Deaths, 58; Fatality, per cent., 13.6.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	480	277	397	357	337	481	422	449	318	425
Deaths ..	45	41	41	56	36	50	55	53	35	58
Fatality per cent.	9.4	14.8	10.3	15.7	10.7	10.4	13.0	11.8	11.0	13.6

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0.16	0.14	0.14	0.19	0.12	0.18	0.19	0.18	0.12	0.21
England and Wales	0.17	0.16	0.15	0.14	0.12	0.13	0.11	0.12	0.15	0.15

The number of cases of Diphtheria in 1915 was considerably higher than that for 1914, and the fatality rate was also higher. The sickness rate per 1,000 in Bradford was 1.51 as compared with 1.52 in England and Wales, and 1.49 in the County Boroughs of England. The greatest number of cases occurred in the East Ward, where 57 cases were notified, and in the South Ward, where 45 cases occurred.

CASES OF DIPHTHERIA MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	40	47	42	25	30	22	21	16	36	39	60	47

The greatest incidence of the disease fell on children under ten years of age, and the disease was most fatal at two years of age.

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-15	15-20	Over 20	Total
Cases ..	13	22	12	41	34	41	36	34	23	22	52	35	60	425
Deaths ..	4	9	6	8	6	5	3	2	7	1	7	—	—	58
Fatality per cent.	30.8	40.9	50.0	19.5	17.6	12.2	8.3	5.9	30.4	4.5	13.5	0.0	0.0	13.6

In 353 cases it was thought advisable to test the house drains where Diphtheria had occurred ; the drains were found defective in 39 or 11.05 per cent. of the cases.

The number of cases removed to hospital was 333, or 78·4 per cent. of the cases.

Enteric Fever. Cases notified, 93; Deaths, 21; Fatality per cent., 22·6.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	236	110	148	81	110	196	256	81	80	93
Deaths	49	23	29	17	29	45	51	18	22	21
Fatality per cent.	20·8	20·9	19·6	21·0	26·4	22·9	19·9	22·2	27·5	22·6

MORTALITY RATES PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0·17	0·08	0·10	0·06	0·10	0·14	0·18	0·06	0·08	0·07
England and Wales	0·09	0·07	0·07	0·06	0·05	0·07	0·04	0·04	0·05	0·04

In the Wards the greatest number occurred in Great Horton (16 cases), North (9 cases), East (8 cases), and West Bowling (8 cases), while no cases occurred in Bradford Moor. The monthly incidence of the disease is shown as follows:—

CASES OF ENTERIC FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ..	12	1	12	6	10	7	6	7	13	7	6	6

Compared with other localities the sickness rate in Bradford was 0·33 per 1,000 of the population, as against 0·18 in England and Wales, and 0·19 in the County Boroughs of England.

In 82 cases it was thought advisable to test the house drains; defects were found in 10 or 12·19 per cent.

The number of cases removed to hospital was 57, 47 going to Leeds Road Hospital, 3 to North Bierley Hospital, 2 to Calverley Hospital, and 5 to Thornton Hospital.

The bacteriological examinations carried out with respect to Enteric Fever are referred to in another part of the Report.

Scarlet Fever. Cases, 499; Deaths, 27; Fatality per cent., 5·41.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	1047	633	815	1238	870	595	634	529	469	499
Deaths	41	13	14	24	14	9	12	10	6	27
Fatality per cent.	3·9	2·1	1·7	1·9	1·6	1·5	1·8	1·9	1·28	5·41

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0.14	0.05	0.05	0.08	0.05	0.03	0.04	0.03	0.02	0.09
England and Wales	0.10	0.09	0.08	0.09	0.06	0.05	0.05	0.06	0.08	0.06

The number of cases of Scarlet Fever notified in 1915 remains small but there has been a rise in the fatality rate. The sickness rate per 1,000 in Bradford in 1915 was 1.77, as compared with 3.59 in England and Wales, and 3.69 in the County Boroughs of England. The greatest number of cases occurred in Great Horton Ward, where 70 cases were notified, and in Bradford Moor Ward, where 56 cases were notified.

CASES OF SCARLET FEVER MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of Cases ...	45	40	54	32	59	39	67	32	32	33	30	36

The cases and deaths classified according to age are seen in the following Table :—

CASES AND DEATHS ACCORDING TO AGE.

	Under 1 year	1-5 years	5-15 years	15-25 years	25-45 years	45-65 years	Over 65 years	Total
Cases ...	6	118	298	51	24	2	—	499
Deaths... ..	1	9	12	3	2	—	—	27
Fatality per cent. ...	16.72	7.63	4.03	5.90	8.33	0.0	0.0	5.41

The number of cases removed to hospital was 375, or 75·2 per cent. of the cases.

Small Pox. No cases of or deaths from Small Pox occurred in the City during 1915. Two suspected cases were notified but these proved, on observation, not to be cases of this disease.

The following Table gives the vaccination returns in the Bradford Union since 1910. The figures have been supplied by Mr. Crowther, the Superintendent Vaccination Officer of the Bradford Union.

VACCINATION STATISTICS.

Year	1 Births	2 Vaccin- ated	3 Insus- ceptible	4 Dead	5 Con. Objector	6 Post- poned	7 Removed	8 Un- accounted	Percent- age not Vaccinat'd including Columns 5, 6, 7, 8
1910	4508	2391	5	409	1317	73	270	43	41·6
1911	4573	2216	11	447	1526	82	239	52	46·1
1912	4702	2081	3	355	1826	120	230	87	52·1
1913	4739	1785	2	450	2037	115	265	85	58·3
1914	4775	1768	7	461	1950	132	321	136	53·2

The figures for that part of Bradford included in the North Bierley Union, are not available.

Diarrhœa. Deaths, 128; Mortality per 1,000, 0·45.

The diseases included in this category fall generally into two groups, those which are zymotic in type and those not so regarded. The distinction between the two is by no means so well recognised, while the confusing character of the nomenclature used in certification adds to the difficulties which present themselves in a consideration of this subject.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	328	112	246	61	142	249	57	220	133	128
Mortality per 1000	1.15	0.39	0.86	0.21	0.49	0.86	0.20	0.74	0.46	0.45

These diseases were most prevalent in the South, Listerhills, Manningham, Bradford Moor, North, Little Horton, and West Wards. Generally speaking therefore the highest mortality from Diarrhoea has occurred in the Wards with the greatest density of population.

The majority of the deaths occurred in children under one year of age; 70, or 55 per cent. of the deaths occurring at this age period.

DEATHS AT VARIOUS AGE PERIODS.

Age Periods	Months			Years.								
	0-3	3-6	6-12	Total under One Year.	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65
Deaths	..	23	21	26	70	16	12	2	—	5	13	10

The disease assumed epidemic forms in the months of August, September, and October.

DEATHS OCCURRING MONTH BY MONTH.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	
Number of Deaths	..	5	4	3	4	8	6	15	26	28	19	5	5	128

Fifty-seven per cent. of the deaths took place in the months of August, September, and October.

The number of notifications of cases of zymotic enteritis received in 1915 was 351.

DEATHS IN EACH WARD FROM DIARRHOEAL DISEASES IN 1915.

Ward	Certified as Infective			Not Certified as Infective			Total Deaths from Diarrhoeal Diseases		
	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total	Under 2 yrs.	Others	Total
Allerton	—	—	—	—	—	—	—	—	—
Bolton	—	—	—	—	I	I	—	I	I
Bradford Moor	3	—	3	6	3	9	9	3	12
East	2	—	2	4	2	6	6	2	8
East Bowling	I	I	2	2	2	4	3	3	6
Eccleshill	—	—	—	I	2	3	I	2	3
Exchange	2	—	2	3	I	4	5	I	6
Great Horton	—	—	—	I	2	3	I	2	3
Heaton	—	—	—	3	I	4	3	I	4
Idle	—	—	—	—	—	—	—	—	—
Listerhills	3	2	5	3	2	5	6	4	10
Little Horton	6	2	8	3	3	6	9	5	14
Manningham	2	—	2	5	2	7	7	2	9
North	4	—	4	9	3	12	13	3	16
North Bierley East	I	I	2	2	3	5	3	4	7
North Bierley West	—	I	I	—	I	I	—	2	2
South	3	—	3	5	2	7	8	2	10
Thornton	—	—	—	—	—	—	—	—	—
Tong	—	—	—	—	—	—	—	—	—
West	3	—	3	5	I	6	8	I	9
West Bowling	2	I	3	2	3	5	4	4	8
City	32	8	40	54	34	88	86	42	128

Measles. Deaths, 99; Mortality per 1,000, 0.35.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0.44	0.17	0.25	0.08	0.49	0.04	0.17	0.12	0.39	0.35
England and Wales	0.27	0.36	0.22	0.35	0.23	0.36	0.35	0.28	0.24	0.43

Whooping Cough. Deaths, 51; Mortality per 1,000, 0.18.

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0.13	0.28	0.19	0.15	0.16	0.35	0.04	0.08	0.32	0.18
England and Wales	0.23	0.29	0.27	0.20	0.24	0.21	0.23	0.14	0.21	0.21

There was a decrease in the mortality rate from Whooping Cough last year, 51 deaths occurring as compared with 93 in the year previous.

Influenza. Deaths, 74.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	32	64	72	87	33	35	22	43	34	74

Puerperal Fever. Cases, 30; Deaths, 17; Fatality per cent., 56·7.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	12	20	18	18	16	26	16	15	21	30
Deaths	9	10	9	2	7	8	9	6	10	17
Fatality per cent.	75·0	50·0	50·0	11·1	43·7	30·8	56·2	40·0	47·6	56·7
Number of live births to each death	660	574	666	2753	784	686	621	968	571	298

The term Puerperal Fever has been removed from the nomenclature of the Royal College of Physicians. Pyæmia, Septicæmia, or Septic Intoxication occurring in puerperal women should be described as Puerperal Pyæmia, Puerperal Septicæmia, or Puerperal Septic Intoxication.

Erysipelas. Cases, 232; Deaths, 8; Fatality per cent., 3·5.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	224	192	195	215	170	293	233	225	241	232
Deaths	9	5	5	10	7	14	6	9	2	8
Fatality per cent.	4·02	2·60	2·56	4·65	4·12	4·78	2·58	4·00	0·83	3·45

Anthrax. Cases, 8 ; Deaths, 1 ; Fatality per cent., 12.5.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Cases ..	11	9	8	7	5	7	8	13	11	8
Deaths ..	4	3	3	1	1	4	3	2	2	1
Fatality per cent.	36.4	33.3	37.5	14.3	20.0	57.1	37.5	15.4	18.2	12.5

(B) OTHER DISEASES.

The deaths occurring in the City during 1915 from all diseases are set out on Table III., page 147, which also shows their age periods. This section will only deal with those diseases other than zymotic diseases which call for special comment.

Tuberculosis. Deaths, 438 ; Mortality rate per 1,000, 1.56.

There was a decrease of 19 in the number of deaths and a decrease of 0.01 per 1,000 in the mortality rate from tuberculosis as compared with 1914.

(A). PULMONARY TUBERCULOSIS. Deaths, 350 ; Mortality rate per 1,000, 1.25.

The figures show a decrease in the number of deaths of 21 and a decrease in the mortality rate of 0.02 per 1,000 in 1915.

(B). TUBERCULOSIS OTHER THAN PULMONARY. Deaths, 88.

Mortality rate per 1,000, 0.31.

From these diseases the number of deaths show an increase of 2 and the mortality rate an increase of 0.01 per 1,000 in 1915.

The subject of Tuberculosis is dealt with later in this Report.

Cancer and Malignant Disease. Deaths, 328; Mortality rate per 1,000, 1.17.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	284	285	286	326	292	338	356	349	368	328
Mort'lity rate per 1000 ..	1.00	1.00	1.00	1.14	1.01	1.17	1.23	1.18	1.27	1.17

The number of deaths is therefore smaller than it has been in any one year since 1910.

AGE INCIDENCE AT DEATH.

Age Periods ..	1-15	15-25	25-45	45-65	65 and upwards
Deaths ..	—	4	38	162	124

The great majority (87.2 per cent.) of the deaths therefore occurred after 45 years of age.

DEATHS FROM CANCER CLASSIFIED ACCORDING TO THE ORGAN AFFECTED.

		1914.			1915.		
		Males.	Females.	Total.	Males.	Females.	Total.
Cancer of Stomach and Bowels ..		75	82	157	52	74	126
" Liver		27	17	44	12	24	36
" Urinary and Generative Organs		12	49	61	9	54	63
" Breast		—	41	41	—	30	30
" Head and Face		6	3	9	11	4	15
" Throat and Tongue		13	6	19	24	5	29
" Other parts of the body		20	17	37	13	16	29
Total		153	215	368	121	207	328

A leaflet was issued during the year calling attention to the main causes and prevention of cancer.

Respiratory Diseases. Deaths, 887; Mortality rate per 1,000, 3.16.

There was a considerable increase in the number of these deaths last year. The number of deaths from bronchitis has increased, and that from pneumonia has increased very largely.

DEATHS FROM BRONCHITIS AND PNEUMONIA IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bronchitis	350	425	493	428	333	322	359	410	381	419
Pneumonia	340	336	299	341	270	309	307	264	317	382

The increase has chiefly taken place at the age periods 1—2 years and 25—45 years.

AGE INCIDENCE OF DEATHS.

Age Periods	1 year	1-2	2-5	5-15	15-25	25-45	45-65	65 upwards
Bronchitis ..	40	10	7	1	1	18	108	234
Pneumonia ..	72	50	28	13	19	70	79	51

Deaths from Violence. Deaths, 161; Mortality rate per 1,000, 0·57.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	147	140	150	143	122	136	143	143	164	161
Mort'lity rate per 1,000 ..	.52	.49	.52	.50	.42	.47	.49	.48	.56	.57

The enquiries by the coroner on causes of death are shown tabulated on page 21.

III. PREVALENCE OF AND CONTROL OF TUBERCULOSIS.

(a) STATISTICS OF MORBIDITY AND MORTALITY.

The number of deaths from all forms of tuberculosis in 1915 was 438, giving a mortality rate of 1·56 per 1,000.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	492	465	536	429	435	426	463	425	457	438

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	1.73	1.63	1.87	1.50	1.51	1.48	1.60	1.44	1.57	1.56
England and Wales..	1.65	1.62	1.59	1.54	1.43	1.47	1.38	1.34	1.36	—

There was therefore a slight decrease in the mortality from this cause in 1915. During the past thirty years there has been a reduction in the death-rate from all forms of tuberculosis in Bradford ; this is well seen in the following table, which shows the average mortality rate per 1,000 for five yearly periods from 1886 :—

AVERAGE MORTALITY RATE PER 1,000 FROM TUBERCULOSIS IN
BRADFORD FOR PERIODS OF FIVE YEARS FROM 1886.

Periods	..	1886-90	1891-95	1896-1900	1901-05	1906-10	1911-15
Average Mor-tality rate per 1,000 ..		2.47	2.26	2.12	1.84	1.65	1.53

(A) *Pulmonary Tuberculosis.* Deaths, 350 ; Mortality rate per 1,000, 1.25.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	374	330	395	319	329	332	364	309	371	350

MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	1.32	1.16	1.38	1.11	1.14	1.15	1.25	1.04	1.27	1.25
England and Wales..	1.15	1.14	1.11	1.08	1.01	1.06	1.05	1.00	1.04	—

There was a slight decrease in the mortality rate from pulmonary tuberculosis last year. Considering the deaths in relation to sex the death-rate from pulmonary tuberculosis was in 1915 among males, 1.57 per 1,000, and among females, 0.99 per 1,000. The chart on page 43 shows that the general death-rate in the male sex for the past thirty years has always been greater than that of the female sex, while the fall in the male death-rate has at the same time during that period been correspondingly less.

The notification of pulmonary tuberculosis was under the general orders of the Local Government Board compulsory throughout the whole year, and the notifications received numbered 521. These notifications classified according to age and sex are seen in the following table.

NOTIFICATION OF PULMONARY TUBERCULOSIS, 1915.

	PRIMARY NOTIFICATIONS												Total Notifications (i.e., including cases previously notified by other Doctors)	
	AGE PERIODS													
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wards	Total		
Males	2	5	8	15	17	32	55	52	36	34	7	263	312	
Females	1	5	12	21	29	42	58	41	31	15	3	258	300	
Total	3	10	20	36	46	74	113	93	67	49	10	521	612	

At the present moment the total number of notifications of pulmonary tuberculosis can hardly be taken as an index of the prevalence of this form of the disease. Generally speaking notification chiefly refers to those well established cases respecting which the diagnosis is no longer in doubt, but with the further development of antituberculous work taking place, many cases in an earlier stage and possibly of a doubtful nature will be brought to light, and for some years the number of notifications may be expected to be high.

(b) *Other Forms of Tuberculosis.* Deaths, 88 ; Mortality rate per 1,000, 0.31.

RECORD OF PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Deaths	118	135	141	110	106	94	99	116	86	88

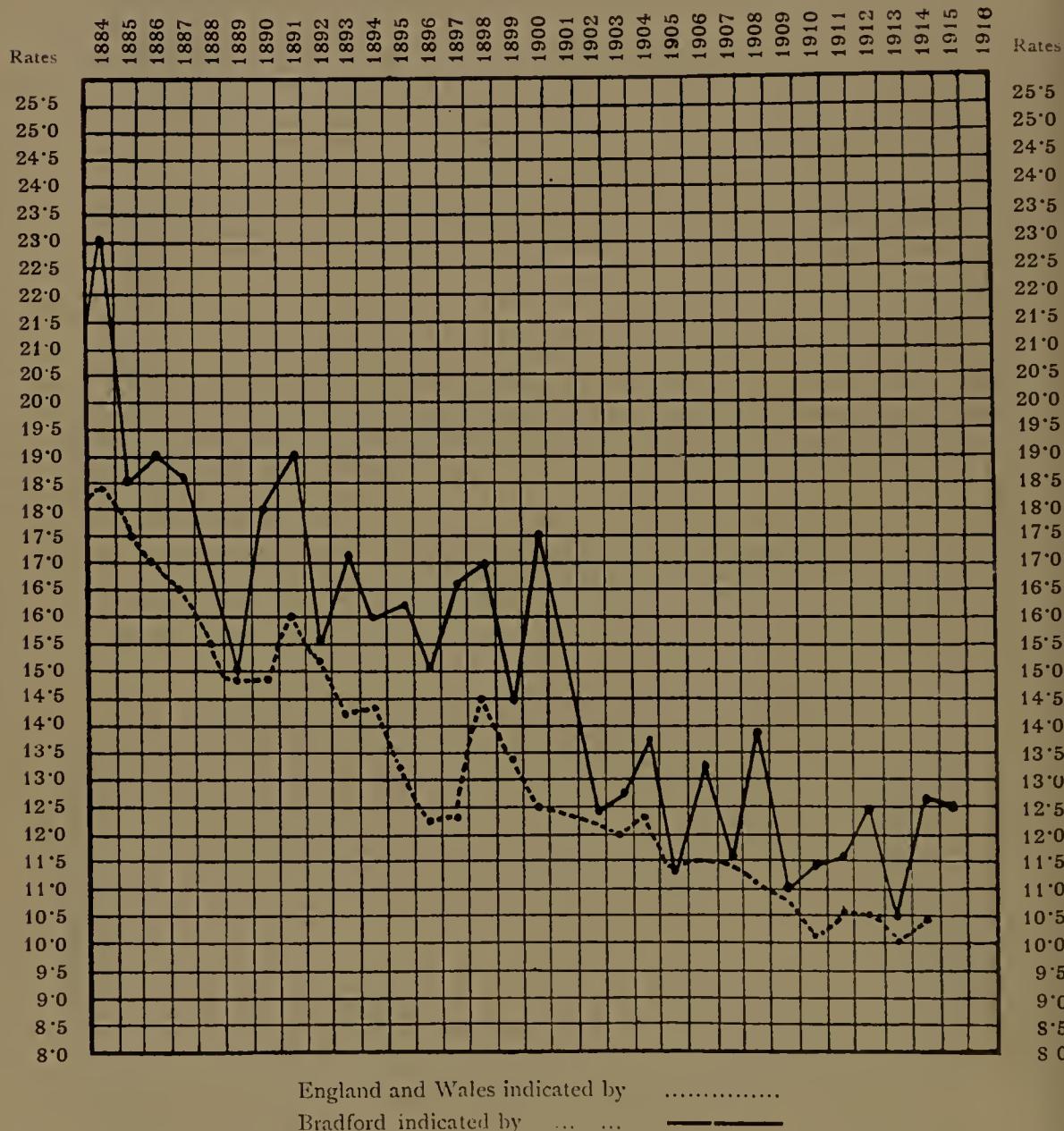
MORTALITY RATE PER 1,000 IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Bradford	0.43	0.47	0.49	0.39	0.37	0.33	0.35	0.39	0.30	0.31
England and Wales..	0.50	0.47	0.47	0.45	0.43	0.41	0.33	0.35	0.32	—

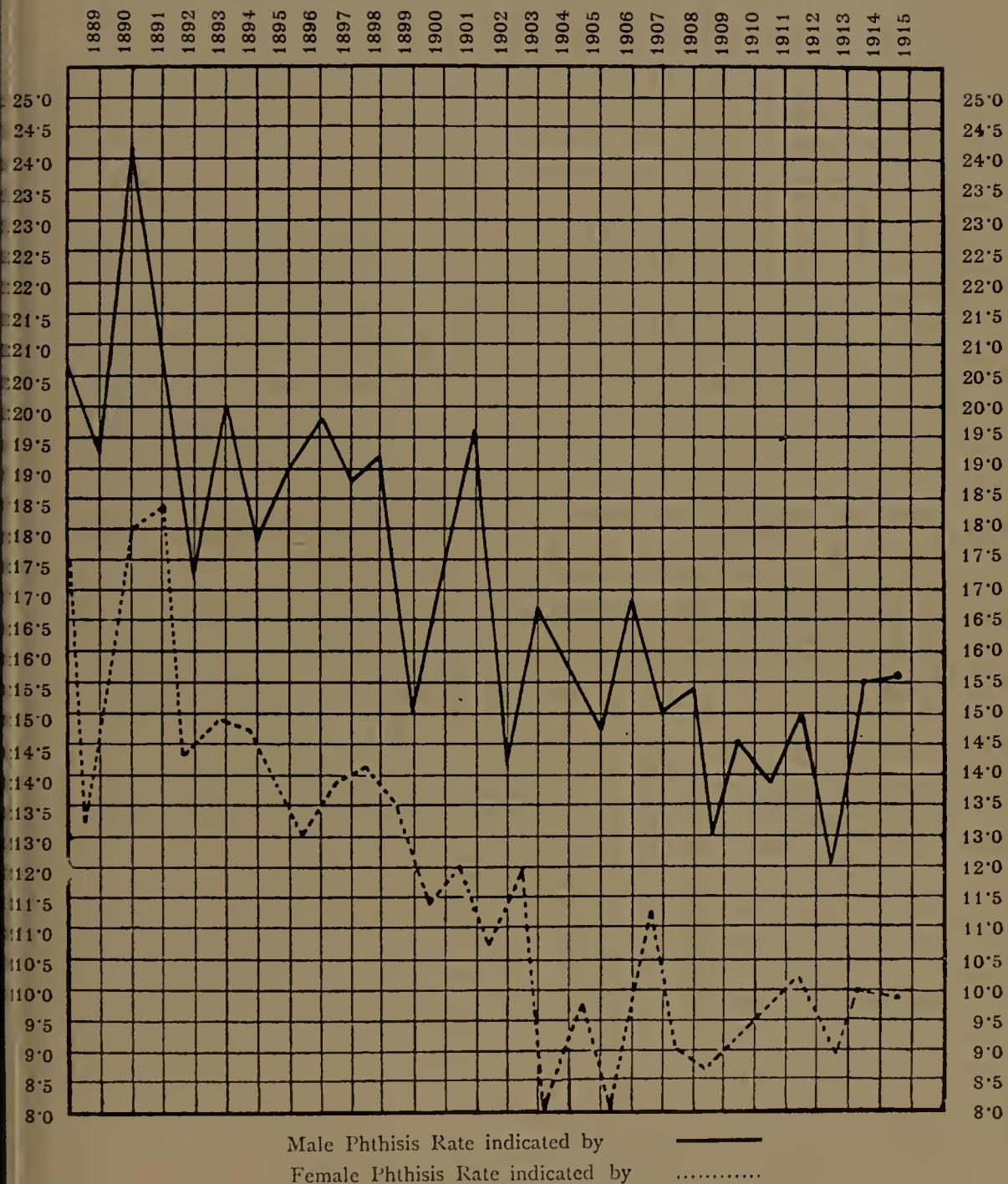
There was a slight increase in the number of deaths and in the death-rate from the forms of tuberculosis other than pulmonary.

Notification of other forms of tuberculosis was in operation during the whole of the year, when 272 cases were notified.

DEATH RATES FROM PULMONARY TUBERCULOSIS PER 10,000 OF THE POPULATION
IN ENGLAND AND WALES AND BRADFORD, 1884-1915.



DEATH RATE FROM PHthisis PER 10,000 OF THE POPULATION.



(b) MEASURES FOR PREVENTION AND TREATMENT.

The arrangements were described in the report of last year. A notable change, however, occurred towards the end of 1915 in the number of cases to be treated, the Corporation providing institutional treatment for all the cases under the care of the Bradford Board of Guardians.

This was rendered necessary by the utilisation of the St. Luke's Hospital of the Guardians as a War Hospital. Temporary arrangements were made at Leeds Road Hospital for housing the tuberculosis cases from St. Luke's and a new hospital at Odsal was begun. The cases of scarlet fever and enteric fever displaced from Leeds Road Hospital to make room for these tuberculosis cases were by arrangement taken to the joint hospitals in which Bradford is interested.

The plans of the new sanatorium at Grassington were finally approved by the Local Government Board, and the work was begun during the current year. This institution will contain 152 beds, fifty-two of which are for men, fifty-two for women, and forty-eight for children. The accommodation for children is in a separate part of the institution, and special provision has been made for their education while in the sanatorium. At Bierley Hall temporary arrangements were made to treat some simpler cases of surgical tuberculosis in vacant accommodation there. The plans for the permanent extension here have not yet been finally submitted for the approval of the Local Government Board.

(c) WORK DONE DURING 1915.

The following table shows the number of cases treated at the Sanatorium, Hospital and Dispensary during the year:—

GENERAL RESULTS OF TREATMENT IN CASES OF PULMONARY
TUBERCULOSIS.

	Sanatorium	Hospital	Dispensary	Total
Admitted ...	232	204	646	1082
Discharged ...	227	113	405	745
Died ...	7	40	5	52

The total number of cases which had passed through the tuberculosis dispensary since its opening to 31st December, 1915, was 2443, of which 500 were contacts. The number of primary visits to cases of tuberculosis made by the health visitors during 1915 was 867, and the number of subsequent visits was 3426.

The following tables showing the treatment of insured persons in the institutions of the Bradford City Council have been prepared by Dr. VALLOW, the Tuberculosis Officer:

TABLE I.

		Men	Women	Total
Residential	.. .. ..	141	80	221
Dispensary	.. .. ..	91	84	175
Domiciliary	.. .. ..	142	78	220
Totals	..	374	242	616

TABLE II.
ANALYSIS OF RESULTS.
(a) RESIDENTIAL.

	Total cases treated	Discharged from Institution		Died	*Resi- dential treatment discon- tinued in other cases	Still under Resi- dential treatment on 1st Jan., 1916
		Improved	Without Improve- ment			
(1)	(2)	(3)	(4)	(5)	(6)	
Men ..	141	71	30	11	7	22
Women ..	80	42	18	6	1	13
Totals ..	221	113	48	17	8	35

* The figures in Column (5) relate to cases as to the progress of which no definite report is available for various reasons, e.g., the withdrawal from the Institution of the Insured Persons themselves before the expiration of the period for which they were nominated for the treatment.

(b) DISPENSARY.

	Total cases treated.	Discharged from Institution		Died	*Dispensary treatment discon- tinued in other cases	Still under dispensary treatment on 1st Jan., 1916
		Improved	Without Improve- ment			
(1)	(2)	(3)	(4)	(5)	(6)	
Men ..	91	25	16	4	2	44
Women ..	84	18	6	1	2	57
Totals ..	175	43	22	5	4	101

* See footnote to Table II. (a), Column (5).

TABLE II.—*continued.*

[c) DOMICILIARY.]

	Total cases treated.	Discharged from Domiciliary treatment.				*Domiciliary treatment discontinued in other cases	Died	Still under treatment on 1st Jan., 1916
		Fit for Work	Referred to Hospital	Referred to Disp'ns'r'y	Left District			
Men ..	157	42	24	2	4	0	30	55
Women ..	87	11	17	0	2	1	18	38
Totals ..	244	53	41	2	6	1	43	93

* See footnote to Table II. (*a*), Column (5).

IV.—MATERNITY AND CHILD WELFARE.

During the year considerable progress was made in an attempt to organise a complete and unified scheme for the safeguarding of maternity and the preservation of health in infants and young children. The scheme itself comprises several units which may be briefly here enumerated.

i. *Ante-Natal Clinic and Maternity Hospital.* This institution is situated in Horton Lane and was formally opened on March 15th, 1915. The number of cases attending the Ante-Natal Clinic was 74. Forty-one cases were admitted to the institution, 4 of the infants being stillborn, and one infant only lived 28 hours.

ii. *Infant Clinic and Hospital.* This institution was established in June, 1912, and began work in temporary premises in Channing Hall. The work was removed to new and specially designed premises in Morley Street in March, 1914.

An infant brought to the Clinic is seen by one of the medical staff there who examines it carefully and records all the important facts in

its physical condition and family history. The mother's own health is enquired into and detailed advice is given as to the rearing of the infant and the maintenance of maternal health during lactation. If the infant is ailing the physician attempts to ascertain the cause of the illness and takes all necessary measures to secure treatment for it. A medical dispensary is provided at the Clinic, but drug treatment is only used as ancillary to other means, as the main object of the institution is to preserve the health of infants by hygienic measures. In addition to questions of feeding, the methods and kinds of clothing, bathing, washing the eyes and mouth, the general toilet of the skin, and all other questions of infancy receive attention, and instructions therein are given to the mothers.

Where an infant is so severely ill or requires more detailed attention than can be given as an outpatient at the Clinic the offer of a short period of residence in the infants' hospital is made. In the new premises now occupied the infants' hospital is attached, and provides accommodation for twenty hand-fed infants. The cases admitted are chiefly those suffering from chronic nutritional disorders. No infectious cases are treated here.

The number of infants treated during the year, and the number of consultations held is as follows:—

Number of Cases	1,985
Re-attendance	25,574
<hr/>	
Total Consultations	27,559

iii. The Feeding of Nursing and Expectant Mothers. To encourage poor expectant and nursing mothers to feed their infants on the breast, and to maintain their nutrition, arrangements are made to supply them with dinners on five days of the week. These are specially

prepared at a central cooking kitchen and distributed by motor vans in heat-proof vessels to seven conveniently situated feeding centres in the city. After the meals the women health inspectors take the opportunity of giving advice and instruction on such subjects as personal and domestic hygiene. The actual serving of the meals is undertaken by members of the Bradford Maternity Care Committee.

The number of mothers fed during the year was 599, and the number discharged was 581.

iv. The Health of Children under School Age. During the current year an attempt was made to continue the supervision of child life from the period of infancy to the time of entering school. This was carried out in premises situate in close proximity to the infant clinic, and the work was formally begun in June, 1915.

The following work was carried out at the Clinic up to the end of the year:—1493 Consultations in respect of 600 children, 403 Examinations of children for holiday homes.

In addition 1040 treatments were carried out by the nurses in respect of 164 children, who attended on 835 occasions, as follows:—Ringworm 32, Verminous 15, Impetigo 228, Conjunctivitis 91, Blephorrhea 29, other Eye Diseases 44, Otorrhœa 180, Rickets 15, other Diseases, 406.

(A) MATERNITY AND PRE-NATAL HYGIENE.

At the close of the year there were fifty-three midwives practising in the City of whom twenty-six held the Central Midwives Board Certificate or a certificate from a recognised hospital, while twenty-seven were on the register as *bona fide* practitioners before the passing of the Midwives Act, 1902.

In Bradford the midwives attended alone in 1915 2,600 cases or 51

per cent. of the registered births. The number of cases attended by each midwife has varied from none up to 162 as is seen in the following table :—

NUMBER OF CASES ATTENDED BY MIDWIVES, 1916.

Number of Cases	Trained Midwives		Untrained Midwives	
	No.	Total Cases	No.	Total Cases
Over 160	—	—	1	162
140—160	2	289	—	—
120—140	1	130	2	280
100—120	1	104	4	439
80—100	1	98	—	—
60—80	1	66	2	142
40—60	7	352	2	103
20—40	5	161	6	170
Under 20	8	62	11*	42
Total . . .	26	1262	27	1338

*Three of these midwives attended no cases in 1915.

The fees in Bradford received by the midwives are as follows :—15/- for attendance on a primipara and 12/6 for a multipara. From a consideration of the foregoing table and the fees paid it will be concluded that not more than 11 midwives in Bradford are wholly dependent on their practice as a means of livelihood.

The number of notifications of sending for medical help was 314, or roughly 12·0 per cent. of their cases. A list of these noti-

fications follows. In 217 cases medical aid was called in on account of the mother, and in 97 cases on account of the child. In the cases where medical help was required on account of the mother, in 183 the circumstances arose during the confinement, and in 34 during the ensuing ten days.

MEDICAL AID NOTIFICATIONS, 1915.

MOTHER.

Miscarriage	4	A.P. Hæmorrhage	5
Malpresentations	21	Placenta prævia	1
Contracted pelvis	15	High temperature	11
Ruptured perinæum.. . .	37	Prolapse of bladder.. . .	1
Instrumental labour.. . .	55	Retained membrane	1
Adherent placenta	21	Mastitis	1
Uterine inertia	16	Illness of mother after con-	
P.P. Hæmorrhage	6	finement	22
		Total	217

CHILD.

Malformations	8	Debility of infant	43
Convulsions	7	Inflammation in eyes	38
Skin disease	1		—
		Total	97

Notice was sent to the Local Supervising Authority of the deaths of 12 infants under the care of midwives before the arrival of a medical practitioner. The midwives reported 100 cases of still-births, or about 3·8 per cent. of their cases, in 23 of these medical aid was obtained before the birth. No deaths of the mother before the arrival of a medical practitioner were notified.

The notices received from the trained and untrained midwives may be summarised as follows:—

Midwives.	Still Births.	Medical Aid.	Puerperal Fever.	Death of Infants before Doctor's arrival.	Ophthalmia Neonatorum.
Trained ..	48	156	8	6	14
Untrained ..	52	158	6	6	18
Total ...	100	314	14	12	32

The number of inspections made by the Midwives Inspector was 978, of which 410 were inspections of the midwives' homes, registers and appliances, 381 special inspections of their work, and 187 special visits to supervise the care of the infant's eyes.

Three infringements of the Rules of the Central Midwives Board were dealt with, and in one case a *prima facie* case of negligence was found and reported to the Board, who cautioned the midwife and placed her under special supervision for six months.

The number of cases of puerperal fever occurring in the practice of midwives was fourteen.

A course of lectures for the purpose of preparing pupil midwives for the Examination of the Central Midwives Board was given under arrangements made with the Education Committee by a recognised teacher and was attended by 20 pupils.

The kind of professional attendance selected for confinements in the working classes varies largely with the sequence of the pregnancy. Last Year in 53·9 per cent. of first births among those visited doctors were in attendance, while after the fourth confinement in only

21·5 per cent. were doctors chosen to attend. The following table shows the nature of the attendance at 3,931 births occurring last year and visited by the health visitors. These 3,931 births represent 77·6 per cent. of the births occurring in the city and are selected by the visitors as those births where visitation appears most necessary.

PROFESSIONAL ATTENDANCE IN MIDWIFERY.

No. of Pregnancy.	No. of Births.	Attendant		Per cent. attended by Doctor.
		Doctor.	Midwife.	
1st	1171	632	558	53·9
2nd	898	404	505	44·9
3rd	538	196	344	36·4
4th	402	120	285	29·8
5th	269	66	20	24·5
6th	198	39	161	19·6
7th	138	25	115	18·1
8th	126	29	98	23·0
9th	64	13	51	20·3
10th	61	11	51	18·0
11th	32	6	26	18·7
12th	17	7	10	41·1
13th	10	3	7	30·0
14th	4	—	4	—
15th	2	—	2	—
17th	1	1	—	100·0
Total ..	3931	1551	2426	39·4

The number of deaths in Bradford from congenital causes represents roughly 30 to 40 per cent. of the mortality amongst infants. These deaths chiefly occur within the first four weeks of life and the numbers at these ages in each year from 1906 are shown in the following table :—

DEATHS IN THE FIRST FOUR WEEKS OF LIFE.

Year	Week				Total	Proportion of Infantile Deaths
	1	2	3	4		
1906	189	40	45	18	292	32·3
1907	153	43	37	30	263	36·9
1908	202	28	60	28	318	37·0
1909	189	26	29	29	273	42·8
1910	154	34	29	32	248	35·8
1911	185	40	31	26	282	36·7
1912	165	29	32	18	244	44·1
1913	187	38	36	18	279	37·6
1914	156	34	41	22	253	36·5
1915	143	33	27	20	223	35·9

These deaths are to be associated in causation with the still births occurring, the number of which, however, cannot be correctly stated, but a near approximation is got from the notifications under the Notification of Births Act, 1907. During the past five years the numbers of still births notified have been in 1910, 167; in 1911, 220; in 1912, 230; in 1913, 270; in 1914, 237; and in 1915, 235. The causes

which bring about these deaths and still births amounting together in Bradford each year to about 500 have relationship to the life of the infant before birth.

During 1915 the enquiries into still births occurring in the practice of midwives in the city were continued. The following tables show the duration of intra-uterine life, the condition of the foetus and the presentation in each of the 100 cases investigated.

DURATION OF INTRA-UTERINE LIFE.

Time.		Cases.
Under 7 months	.. ..	6
7 months	.. ..	20
8 months	.. ..	17
Full time	.. ..	57

CONDITION OF FœTUS.

Number macerated	.. ..	64
Number not macerated	..	36

PRESENTATION.

Vertex	.. ..	67	Footling	.. ..	16
Breech	.. ..	12	Face	.. ..	1
Funis	.. ..	1	Placenta prævia	..	3

It will therefore be noted that in 57 per cent. of the cases the still births occurred at full time, while in over 65 per cent. of the cases the foetus had died before labour set in.

Of the 100 still births in the practice of midwives 11 per cent. were illegitimate children; this is considerably higher than the rate of illegitimacy among live births.

The apparent causes of the still birth may be set out as follows:—

	Cause.				No. of Cases.
Presentation.	Breech presentation	..	..	..	12
	Funis presentation	..	..	..	1
	Placenta prævia	..	..	..	3
	Other malpresentation	..	..	..	17
Mother.	Contracted Pelvis	..	..	..	7
	Uterine inertia	..	..	..	9
	General Debility of mother	..	..	..	22
	Maternal Shock from accident	..	..	..	11
Child.	Over-exertion	..	..	..	3
	Kidney disease	..	..	..	3
	Hydramnios	..	..	..	2
	Other malformation of foetus	..	..	..	1
Antipartum hæmorrhage					3
Syphilis					2
Unknown					4
Total					100

The duration of labour in 6 of these cases of still birth was under 1 hour; in 17, between 1 and 4 hours; in 20, between 4 and 8 hours; in 28, between 8 and 12 hours; in 6, between 12 and 18 hours; in 16, between 18 and 24 hours; and in 7, over 24 hours.

It would therefore seem that the presentation was associated with the cause of the still birth in 33 per cent. of the cases; some maternal condition in 55 per cent. of the cases; some abnormal condition of the foetus in 3 per cent.; antipartum haemorrhage in 3 per cent.; and syphilis in 2 per cent. of the still births.

In 2 cases the mother was under 20 years of age; in 57, between 20 and 30 years; in 23, between 31 and 35 years; in 15, between 36 and 40 years; and in 3, over 40 years of age.

The pregnancy at which the still birth occurred was in 26 the first; in 18 the second; in 14 the third; in 6 the fourth; in 14 the fifth; in 5 the sixth; in 4 the seventh; in 6 the eighth; in 1 the ninth; in 2 the tenth; in 3 the eleventh; and in 1 the fifteenth. Comparing these results with the incidence of the pregnancy in the births attended by midwives we find that the first pregnancy, especially among older women, shows a high still birth rate.

MIDWIVES' CASES.

RATE OF STILL BIRTHS AT EACH PREGNANCY.

In twenty-four cases the women had previously borne still-born children, as follows:—

No. of previous still-born children.							Cases.
1 ..	..	..	..	..	..	..	9
2 ..	..	..	..	..	..	..	7
3 ..	..	..	..	..	..	..	3
4 ..	..	..	..	..	..	..	2
5 ..	..	..	..	..	..	..	1
7 ..	..	..	..	..	..	..	1
10 ..	..	..	..	..	..	..	1
Total							24

The liability to still birth is about seven times greater among women who have previously borne still-born children.

(B) INFANCY.

During the year 1915 the number of births registered in Bradford was 5,062, while the number notified under the Notification of Births Act, 1907, was 5,124.

During the past three years about 99 per cent. of the births registered have been notified.

RECORD OF PREVIOUS YEARS.

	1910	1911	1912	1913	1914	1915
Births registered	5490	5480	5586	5811	5709	5062
Births notified	5035	5307	5582	5666	5667	5124
*Notifications to 100 registrations	91.7	96.8	99.9	97.3	99.2	101.2

* The comparisons here are not quite accurate as the births notified include still births which are not registered.

TIME OF RECEIPT OF NOTIFICATIONS OF BIRTH IN 1915.

Persons notifying	Receipt of Notification					1—2 months	2—3 months	Total	Percent. received late
	Within 2 days	3—7 days	1—2 weeks	2—3 weeks	3—4 weeks				
Doctor	1457	277	36	9	3	1	3	1786	18.4
Midwife	2364	231	2	1	1	1	—	2600	9.0
Father	489	87	8	1	1	1	—	587	16.6
*Doctor and Midwife	52	15	—	—	—	—	—	67	22.3
*Father and Doctor	6	2	2	—	—	—	—	10	40.0
*Father and Midwife	7	1	—	—	—	—	—	8	12.5
Institutions	52	11	3	—	—	—	—	66	21.2
Total	4427	624	51	11	5	3	3	5124	13.6

* When two notifications have been received only one entry has been made in the table under the time of the receipt of the first notification.

Following the receipt of the notification a large proportion of the births are visited by the Health Visitors. The selection of the cases for visitation depends largely on the local knowledge of the visitor, but speaking generally all cases notified by midwives are visited as soon as possible after the birth as well as those cases with doctors in attendance where the home circumstances are known to be poor. The number of infants notified in 1915 visited was 4,068.

BIRTHS VISITED IN 1915.

Person in attendance	Times between Birth and Visit					Total
	1 week	2 weeks	3 weeks	4 weeks	Over 4 weeks	
Doctor ..	242	469	409	206	313	1639
Midwife ..	1709	413	144	54	109	2429

Of the 4,068 births visited it was considered that 400 required visitation once only during the first year while 3,517 were selected for frequent revisititation during their first year of life. The total number of visits paid in 1915 to infants was 36,571.

FEEDING OF INFANTS COMPLETING FIRST YEAR.

	Hand fed from birth	Mixed feeding from birth	Wholly breast fed				
			Under 1 month	Under 3 months	Under 6 months	Under 9 months	Over 9 months
Infants ..	209	34	381	547	289	246	870
Percentage	8.1	1.3	14.7	21.2	11.2	9.5	33.7

The features of this Table as compared with that for the year 1914 is, that during 1915 a larger proportionate number of infants were hand fed and mixed fed from birth, while a larger proportionate number of mothers who attempted breast feeding gave the attempt up before the infant was a month old. The reasons given for this early or partial weaning in 504 cases was as follows:—Insufficiency of milk, 316 cases; mother's health, 113 cases; mother working, 119 cases; doctor's orders, 41 cases; and child taken to hospital, 5 cases. There can be no doubt, however, that the real reason for the increased artificial feeding has been the increase of woman's labour.

WORK OF MOTHERS IN 1915.

	Outside the home			Inside the Home
	Factories	Other Work	Total	
Within six months before birth ..	668	127	795	1781
Within six months .. after birth ..	284	63	347	2229

Of the 795 mothers working within six months before confinement 390 were employed within three months before the birth, and of the 347 mothers working within six months after confinement 164 returned to work within three months after the birth.

(C) INFANT MORTALITY IN 1915.

The infantile mortality rate last year shows a slight increase over that of the year preceding. Table IV., page 148, gives in detail the diseases from which the deaths arose.

INFANTILE DEATHS IN PREVIOUS YEARS.

	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Zymotic diseases ..	57	50	45	34	71	48	23	33	68	46
Tuberculous diseases ..	28	26	38	28	23	14	13	28	13	8
Diarrhoea, &c. ..	216	55	162	45	96	180	25	156	88	81
Congenital causes ..	315	299	364	282	277	288	256	295	234	209
Pulmonary diseases ..	99	146	108	95	82	91	114	96	109	112
Convulsions ..	92	61	55	63	58	60	69	53	79	54
All other causes ..	96	76	118	90	88	84	53	80	102	112
Total .. .	903	713	860	637	695	765	553	741	693	622

The table on page 62, and the chart following page 63, show that a continuous fall is taking place in the infantile mortality rate in Bradford. There is still, however, much room for improvement and it is hoped that the greatly increased efforts now being made will still further and more rapidly reduce the rate.

The Ward record of infantile mortality is shewn on the table on page 66, and on the chart on page 65, where it will be seen that this rate was highest in Exchange, North, Listerhills, West, South, and Bradford Moor Wards, and the lowest in Allerton, Idle, North Bierley West, Heaton, Eccleshill, and Tong Wards.

INFANT MORTALITY IN BRADFORD AND ENGLAND AND WALES
FOR EACH YEAR, AND IN GROUPS OF FIVE YEARS SINCE 1871.

BRADFORD.		ENGLAND AND WALES.		BRADFORD.		ENGLAND AND WALES.	
1871	220	Average	158	Average	1896	143	Average
1872	200		150		1897	179	148
1873	205	208	149	153	1898	184	156
1874	189		151		1899	181	160
1875	202		158		1900	140	156
1876	176		146		1901	168	151
1877	157		136		1902	139	133
1878	178	166	152	145	1903	148	132
1879	152		135		1904	167	138
1880	176		153		1905	144	145
1881	154		130		1906	152	128
1882	174		141		1907	124	132
1883	147	160	137	139	1908	143	118
1884	181		147		1909	116	120
1885	144		138		1910	127	117
1886	168		149		1911	140	109
1887	179		145		1912	99	106
1888	153	170	136	145	1913	128	130
1889	181		144		1914	122	95
1890	169		151		1915	123	105
1891	181		149				110
1892	155		148				
1893	198	176	159	151			
1894	144		137				
1895	203		161				

INFANT MORTALITY 1891—1915.

Year	Deaths under One Year of Age per 1000 Births.		
	Total.	Diarrhoeal Diseases.	Total less Diarrhoeal Diseases.
1891	181	14	167
1892	155	15	140
1893	198	12	186
1894	144	10	134
1895	203	52	151
1896	142	18	124
1897	179	23	156
1898	184	19	165
1899	181	22	159
1900	141	16	125
1901	168	35	133
1902	139	8	131
1903	148	19	129
1904	167	29	138
1905	144	21	123
1906	152	34	118
1907	124	11	113
1908	143	30	113
1909	116	6	110
1910	127	20	107
1911	140	32	108
1912	99	4	95
1913	128	27	101
1914	122	15	107
1915	123	16	107

INFANT MORTALITY PER 1000 BIRTHS, 1881—1915.

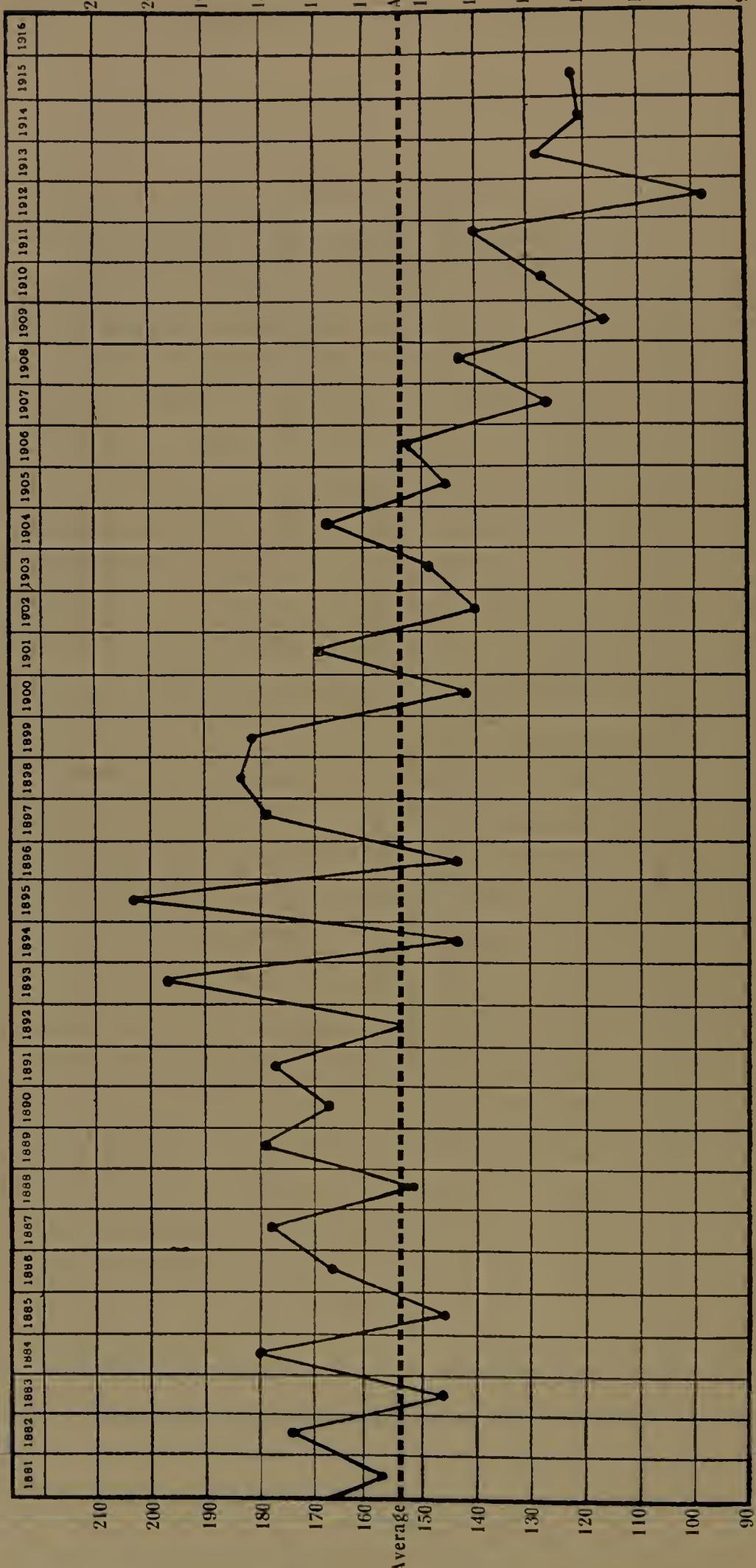
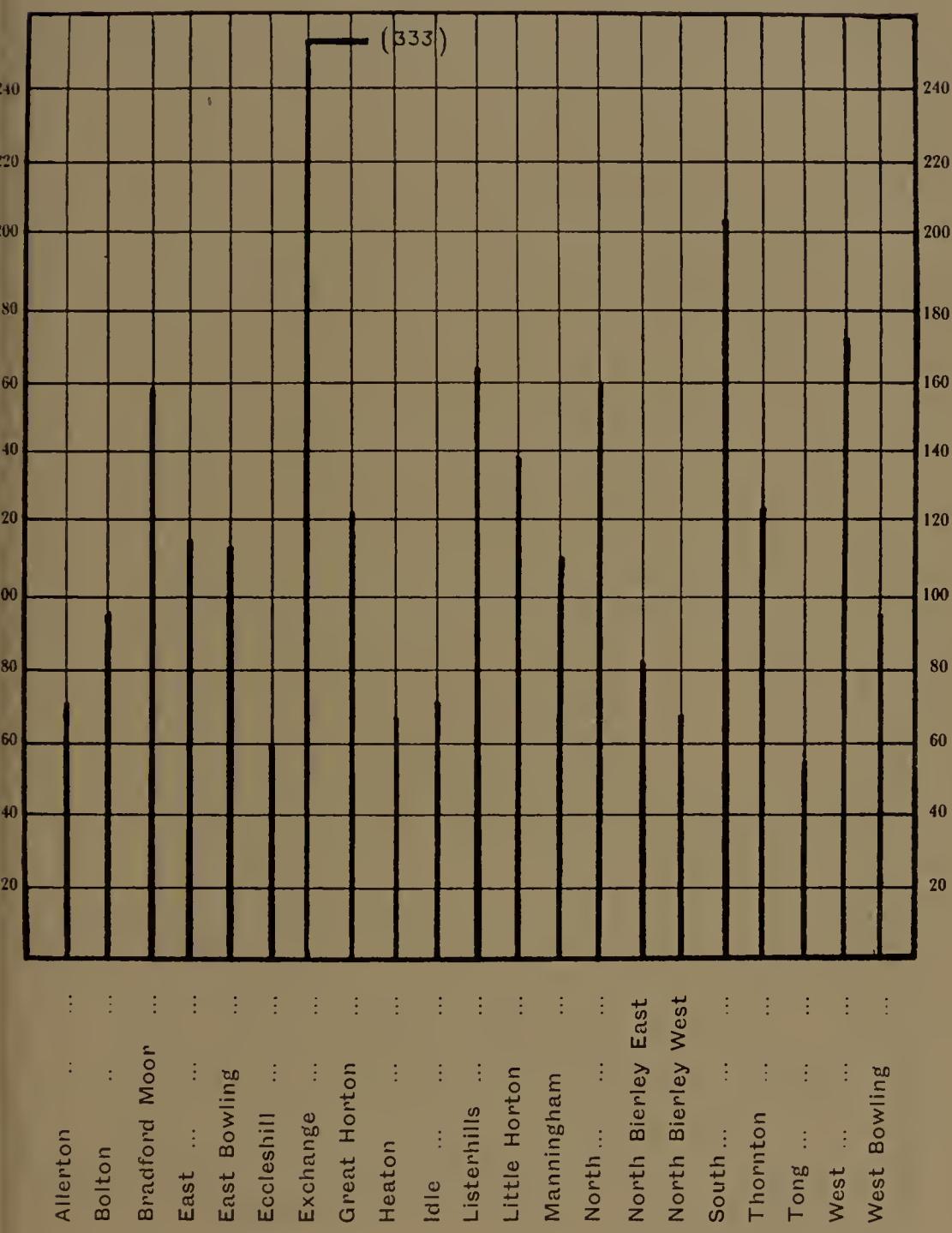


DIAGRAM SHOWING COMPARATIVELY THE INFANT MORTALITY PER
1000 BIRTHS IN THE MUNICIPAL WARDS, 1915.



INFANT MORTALITY RATE PER 1,000 BIRTHS, IN WARDS, FOR THE
YEARS 1906 TO 1915.

		1906	1907	1908	1909	1910	1911	1912	1913	1914	1915
Allerton	..	113	82	132	92	64	98	76	95	65	73
Bolton	..	112	103	95	119	63	72	70	81	96	95
Bradford Moor	..	114	141	135	132	131	152	110	149	121	158
East	..	120	114	161	93	92	156	99	112	126	114
East Bowling	..	179	167	149	124	144	142	117	107	143	112
Eccleshill	..	139	89	73	62	109	157	84	92	89	57
Exchange	..	239	152	312	207	230	293	185	196	149	333
Great Horton	..	100	116	108	81	131	51	76	90	118	121
Heaton	..	108	91	132	72	152	94	69	87	82	67
Idle	..	96	127	101	102	171	91	67	73	50	73
Listerhills	..	172	168	173	163	147	195	129	189	150	162
Little Horton	..	154	117	124	126	114	111	114	103	110	137
Manningham	..	171	117	146	111	141	129	70	159	97	112
North	..	222	176	236	100	166	230	126	194	192	160
North Bierley (East)	183	94	126	131	108	161	68	129	119	81	
North Bierley (West)	98	81	90	112	75	106	144	82	62	67	
South	..	187	127	208	165	131	194	119	185	176	204
Thornton	..	121	113	96	140	122	204	55	116	74	122
Tong	..	82	55	126	140	114	135	68	94	155	56
West	..	317	176	169	106	161	210	178	139	171	172
West Bowling	..	168	122	133	122	99	103	73	137	99	96
City	..	152	124	143	116	127	140	99	128	122	123

(D) EMPLOYMENT OF CHILDREN ACT, 1903.

The number of offences discovered during the year against the Bye-laws was 442, and in addition there were 44 offences against the general provisions of the Act itself, making a total of 486, as compared with 228 in the previous year, 336 in 1913, 178 in 1912, 315 in 1911, 439 in 1910, 277 in 1909, 375 in 1908, and 724 in 1907. In twenty-four cases where the offences were repeated after warning had been given, the employers were prosecuted and the remaining employers served with warning notices and supplied with printed copies of the Bye-laws.

The following is a summary of the offences committed :—

Children employed under eleven years of age ..	113
Children employed for more than 20 hours per week	18
Children employed as half-timers for more than 30 hours in a week	9
Children employed after 8 p.m. on weekdays ..	30
Children employed after 9 p.m. on Saturdays ..	1
Children employed both morning and evening ..	44
Children employed the whole of the day on Saturday	90
Children employed on Sundays	22
Children employed after 8 a.m. and before 5 p.m. ..	37
Children employed before 6 a.m.	1
Children employed during school meal hours ..	45
Children employed after half-time in factory ..	41
Children employed in occupation likely to cause injury to health	3
Other offences	32
Total ..	486

During the year 104 children were licensed by the Magistrates to take part in public entertainments at the various theatres and other places of amusement. Visits were made in each case to see that the conditions of the licence were carried out, and that the children were suitably cared for and educated. With one exception, all the conditions were found to be satisfactorily complied with. In the exception referred to, a child was on the stage until seven minutes after the time allowed by the licence. A warning letter was sent to the manager of the theatre, with the result that for the remainder of the week during which the child was performing the conditions of the licence were complied with. Visits were also made to places of entertainment at times when no licences were in operation, but no children were found to be illegally employed.

The following prosecutions were undertaken under the Employment of Children Act, 1903, and Bye-laws :—

- (a) For employing children after half-time in factory, four persons were proceeded against, and fined in all 15s. and £1 15s. costs.
- (b) For offences against the Bye-laws, 20 persons were proceeded against and fined in all £8 19s. and £4 18s. costs.

V.—HOSPITALS.

In the table on page 19, of this report will be found a list of the various hospitals admitting cases from Bradford. In this part only municipal hospitals will be dealt with.

The Council possess at present two hospitals, Leeds Road Hospital and Bierley Hall Hospital, and have a right to admit patients suffering from infectious disease into three hospitals owned by the joint boards of Calverley, North Bierley, and Thornton.

The following summary shows the number and character of the cases admitted to these hospitals in 1915 :—

	Leeds Road	North Bierley	Calv'ley	Th'rnton	Bierley Hall	Total
Smallpox (Suspected) ..	2	—	—	—	—	2
Scarlet Fever	375	55	16	1	—	449
Diphtheria	333	17	4	—	—	354
Typhoid Fever	57	3	2	5	—	67
Erysipelas	10	—	—	—	—	10
Cerebro Spinal Fever ..	2	—	—	—	—	2
Puerperal Fever	1	—	—	—	—	1
Tuberculosis	203	—	—	—	232	435
	983	75	22	6	232	1320

(A) CITY HOSPITAL, LEEDS ROAD.

Dr. Kitchin, the Medical Superintendent, has prepared the following report with respect to the work done there :—

GENERAL ABSTRACT.

Remaining in Hospital, 31st December, 1914	...	...	...	87
Admitted during the year 1915	...	...	...	761
		TOTAL	...	<u>848</u>
Discharged, relieved, or cured	...	...	...	721
Died	...	...	...	73
Remaining in Hospital, 31st December, 1915	...	...	...	54
		TOTAL	...	<u>848</u>

SCARLET FEVER.

AGE.	MALES.		FEMALES.		TOTALS.		Death Rate per cent.	
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.		
Under 1	1	...	3	...	4	...	...
1-2	3	...	2	...	5	...	...
2-3	7	...	4	1	11	1	9	
3-4	7	...	13	3	20	3	15	
4-5	5	...	17	...	22	...	...
Total under 5	23	...	39	4	62	4	6·4	
5-10	67	3	65	5	132	8	6	
10-15	36	...	36	...	72	...	...
15-20	12	1	13	2	25	3	12	
20-25	5	...	12	...	17	...	...
25-30	4	1	4	...	8	1	12·5	
30-35	1	...	3	1	4	1	25	
35-40	1	...	...	...	1	...	...
40-45	1	...	...	...	1	...	...
45-55	1	...	1	...	2	...	...
TOTAL	...	151	5	173	12	324	17	5·2

ENTERIC FEVER.

AGE.	MALES.		FEMALES.		TOTALS.		
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death- Rate Per cent.
Under 5	...	...	...	...	...	...	...
5—10	2	...	2	...	4	...	...
10—15	2	...	3	...	5	...	...
15—20	2	...	2	...	4	...	...
20—25	1	...	2	2	3	2	66·6
25—30	4	1	3	...	7	1	14·2
30—35	...	...	3	1	3	1	33·3
35—40	2	...	...	...	2	...	...
40—45	1	...	1	...	1	...	...
45—50	1	...	1	...	2	...	...
50—55	...	...	...	...	1	...	...
55—60	1	...	...	...	1	...	...
60—70	1	1	...	...	1	1	100
TOTAL	...	17	2	17	3	5	14·7

DIPHTHERIA.

AGE.	MALES.		FEMALES.		TOTALS.			
	No. Admitted.	No. Died.	No. Admitted.	No. Died.	No. Admitted.	No. Died.	Death- Rate. Per cent.	
Under 1	2	1	8	4	10	5	50·0	
1—2	9	3	4	2	13	5	38·4	
2—3	9	4	4	...	13	4	30·7	
3—4	16	3	18	1	34	4	11·7	
4—5	16	3	13	1	29	4	13·7	
Total under 5	52	14	47	8	99	22	22·2	
5—10	72	5	47	6	119	11	9·2	
10—15	20	1	22	3	42	4	9·5	
15—20	8	...	11	...	19	...	...
20—25	3	...	12	...	15	...	...
25—30	7	...	5	...	12	...	...
30—35	...	...	4	...	4	...	...
35—40	...	...	2	...	2	...	...
40—45	...	...	2	...	2	...	...
45—50	...	...	...	...	...	...	...
50—55	...	...	1	...	1	...	...
TOTAL	...	162	20	153	17	315	37	11·7

SHOWING NUMBER OF CASES ADMITTED DURING EACH MONTH
OF 1915.

1915.	Scarlet Fever.			Enteric Fever.			Diphtheria.			Other Diseases.			Total Admissions.		
	Month.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total
January ...	14	21	35	2	3	5	11	16	27	1	2	3	28	42	70
February ...	20	15	35	1	...	1	25	13	38	4	2	6	50	30	80
March ...	18	22	40	2	...	2	9	11	20	3	4	7	32	37	69
April ...	10	17	27	2	...	2	6	11	17	3	2	5	21	30	51
May ...	22	28	50	1	5	6	9	11	20	11	2	13	43	46	89
June ...	16	13	29	1	1	2	14	8	22	19	4	23	50	26	76
July ...	25	32	57	1	...	1	11	3	14	6	6	12	43	41	84
August ...	9	13	22	...	1	1	10	4	14	6	2	8	25	20	45
September	12	7	19	3	5	8	12	17	29	2	1	3	29	30	59
October ...	5	5	10	3	2	5	12	17	29	3	4	7	23	28	51
November ...	...	...	...	1	...	1	24	26	50	...	...	...	25	26	51
December ...	...	...	...	...	...	...	19	16	35	...	1	1	19	17	36
TOTALS...	151	173	324	17	17	34	162	153	315	58	30	88	388	373	761

OTHER DISEASES.

Measles	..	..	..	..	..	..	44
Erysipelas	..	..	..	..	..	..	13
Meningitis	..	..	..	..	..	..	6
Puerperal Fever	..	..	..	..	..	..	2
Tonsilitis	..	..	..	..	..	..	9
Varicella	..	..	..	..	..	..	1
Erythema	..	..	..	..	..	..	1
Cerebral Abscess	..	..	..	..	..	..	1
Cerebral Thrombosis	..	..	..	..	..	..	1
Post Pharyngeal Abscess	..	..	..	..	..	..	2
Pneumonia	..	..	..	..	..	..	8
							—
TOTAL	..	..	..	..	..	..	88

Of these patients fourteen died—two from measles, two from erysipelas, five from meningitis, two from pneumonia, one from puerperal fever, one from cerebral thrombosis, and one from post pharyngeal abscess.

The number of patients treated at the Special Department, Leeds Road Hospital, during the year is as follows :—

	Remaining in Hospital 31st Dec., 1914.	Admitted.	Discharged.	Died.	Remaining in Hospital 31st Dec., 1915.
Ophthalmia Neonatorum	...	1	31	28	1
Nursing Mother	...	1	9	10	...
Tonsils and Adenoids	248	248	..
Eye Cases	28	27	...
Ear Cases	15	15	...
Nose Cases	4	4	...
Totals	...	2	335	332	1
					4

SUMMARY.

YEAR.	SMALL-POX.			ENTERIC FEVER.			SCARLET FEVER.			DIPHTHERIA.			OTHER DISEASES.			TOTALS.			From 1880 to 1915.		
	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.	Cases.	Deaths.	Death-rate per 100.
1880	2	1	50.0	60	8	13.3	248	38	15.3	...	...	...	54	7	12.9	364	54	14.8	13,192	364	...
1881	21	2	9.5	61	7	11.5	317	42	13.2	...	...	...	27	...	...	426	51	11.97	16,073	373	...
1882	26	3	8.8	88	17	19.3	213	31	14.5	...	...	...	39	5	12.8	366	56	15.32	14,766	40	...
1883	5	...	...	119	17	14.2	233	17	7.2	...	...	...	23	2	8.6	375	36	9.6	15,949	424	...
1884	3	...	...	93	17	18.2	237	11	4.6	...	...	...	29	4	13.7	362	32	8.8	14,215	393	...
1885	28	2	7.14	89	6	6.74	456	19	4.16	...	...	...	23	8	34.7	596	35	5.89	21,391	36	...
1886	4	...	...	83	8	9.63	625	29	4.64	...	...	...	14	2	14.3	726	39	5.37	29,305	403	...
1887	3	...	...	79	7	8.86	830	21	2.27	...	...	...	9	5	55.5	921	33	3.58	38,609	424	...
1888	16	2	12.5	57	6	10.53	283	12	4.24	...	...	...	11	1	9.9	367	21	5.72	16,479	46	...
1889	9	1	90	26	28.89	355	40	11.27	...	...	...	...	36	6	16.67	490	73	14.90	21,315	433	...
1890	...	...	...	59	11	18.64	380	22	5.78	...	...	...	43	12	27.90	484	45	9.30	19,940	414	...
1891	...	...	...	76	15	19.6	780	83	6.01	...	...	...	39	10	25.6	897	108	12.04	39,838	44	...
1892	25	4	16.6	41	11	26.8	587	27	4.6	...	...	...	32	7	21.8	685	49	7.2	29,191	423	...
1893	935	100	10.6	11	4	36.3	228	17	7.8	...	...	...	12	1	8.3	1186	122	10.2	34,203	28.8	...
1894	...	...	...	42	8	0.61	525	30	5.7	...	...	...	16	...	...	583	38	6.5	27,124	46.5	...

1897	11	14·8	226	5	2·21	...	...	17	8	47·05	317	24	7·5	14,549	45·8			
1898	...	7·4	...	...	1·2	...	...	42	16	38·09	760	44	5·8	35,112	46·2			
1899	...	16·2	21	12·9	556	7	...	...	24	11	45·8	1813	101	5·5	87,024	48		
1900	...	13·1	16	12·2	1658	7·4	4·4	...	...	34	6	17·6	1030	86	8·3	47,998	46·6	
1901	...	17·5	38	21·7	821	42	5·1	...	...	36	12	33·3	746	48	6·4	33,868	45·3	
1902	...	13·7	18	13·1	573	1·8	3·1	...	...	28	6	21·8	789	69	8·7	35,347	44·8	
1903	...	7·9	14	17·7	571	26	4·5	111	23	20·7	25	6	24·0	668	60	8·9	30,193	45·1
1904	...	8·0	13	16·25	467	19	4·06	96	22	22·9	25	5	17·8	1079	124	11·4	44,454	41·2
1905	...	6·4	17	26·5	550	17	3·09	437	85	19·4	28	4	16·6	954	84	8·8	41,403	43·4
1906	...	8·5	11	12·9	570	32	5·6	275	37	13·4	24	6	40·0	1013	62	6·12	42,850	42·3
1907	...	12·1	20	16·52	694	22	3·17	183	14	7·65	15	2	15·3	578	40	6·9	23,871	41·3
1908	...	50	10	20·0	374	12	3·2	141	16	11·34	13	3	30·0	768	45	5·8	32,640	42·5
1909	...	88	18	20·0	493	9	1·82	177	15	8·47	10	4	22·2	751	40	5·3	30,190	40·2
1910	...	32	5	15·62	622	1·3	2·09	175	24	13·71	32	8	25·0	861	50	5·8	35,559	41·3
1911	...	67	13	19·4	457	9	1·9	209	14	6·6	18	4	22·2	760	54	7·1	33,668	44·3
1912	...	93	19	20·4	367	4	1·08	271	23	8·4	29	8	27·5	882	76	8·6	38,278	43·4
1913	...	172	31	18·0	415	8	1·9	255	27	10·5	40	10	25·0	683	53	7·7	29,095	42·6
1914	...	43	6	13·9	324	6	1·8	291	34	11·6	25	7	28·0	761	33	5·5	25,056	39·5
1915	...	40	7	17·5	323	6	1·8	239	19	8·0	33	3	9·1	635	14	15·9	30,316	40·1
		34	5	14·7	324	17	5·2	315	37	11·7	88	14	15·9	761	73	9·5		

(B) THE CITY HOSPITAL.—BIERLEY HALL.

The Table shows the number of cases of Small-pox and other diseases isolated and treated at Bierley Hall:—

	1913	1914	1915	Total No. of days in Hospital, 1915	Average No. of days in Hospital
Small-pox ... ... ...	...	...	...	...	...
Convalescent Scarlatina ... ...	...	...	...	...	...
Phthisis	177	248	232	19,501	84
	177	248	232	19,501	84

(C) MAINTENANCE, &c.

Cost of Maintenance and Establishment Charges for the Year ended 31st March, 1916.

MAINTENANCE.

	Leeds Road £ s. d.	Bierley Hall £ s. d.
Cost of articles (food and drink), including stimulants and aerated waters	3464 19 6	1573 11 6
Cost of stimulants and aerated waters only	107 9 5	3 1 6
Cost per head of household and patients (all ages) per day, including stimulants and aerated waters ...	10·6d.	0 1 2½
Cost per head of household and patients (all ages) per day of stimulants and aerated waters only ...	0·37d.	0·03d.

	Leeds Road.	Bierley Hall
Number of patients under 12 years of age ...	512	16
Number of patients over 12 years of age ...	194	216
Total number of patients	706	232

For the year ended March 31st, 1916, the cost of maintenance of patients admitted from Bradford to the conjoint Hospitals is as follows:—

	Half-year ended 31st March, 1916. £ s. d.	Half-year ended 30th Sept., 1915. £ s. d.	
North Bierley Joint Hospital...	0 11 10½	2 4 0	per week.
Calverley Joint Hospital ...	1 8 5	1 9 3	,,
Thornton Joint Hospital ...	0 3 6½	0 4 5½	,,

The following sums were paid during the year under the head of "Establishment Charges":—

North Bierley Joint Hospital ...	... ... ... ...	... £810 4 2
Calverley Joint Hospital ...	... ... ... ...	... 524 14 9
Thornton Joint Hospital ...	... ... ... ...	... 277 4 0

NUMBER OF PATIENTS ADMITTED.

North Bierley Joint Hospital	Number of patients under 12 years ...	56
	Number of patients over 12 years ...	19
	Total number of patients	75

Calverley Joint Hospital	Number of patients under 12 years ...	16
	Number of patients over 12 years ...	6
	Total number of patients	22

Thornton Joint Hospital	Number of patients under 12 years ...	2
	Number of patients over 12 years ...	4
	Total number of patients	6

VI.—BACTERIOLOGICAL LABORATORY.

The total number of bacteriological examinations conducted for the local authority in 1915 was 2,735. Of these 1,597 were carried out at the Bacteriological Laboratory, and 1,076 by the Veterinary Inspector at the Town Hall, and 62 by the Leeds School of Medicine.

The following table shows the conditions for which these examinations were made :—

BACTERIOLOGICAL EXAMINATIONS, 1915.

Condition			Bacteriological Laboratory	Elsewhere	Total
Enteric Fever	..	..	85	—	85
Anthrax	..	..	12	4	16
Diphtheria	..	..	768	—	768
Tuberculosis :					
Sputum	..	..	457	—	457
Milk	..	..	60	1032	1092
Urine, &c.	..	..	22	—	22
Milk (other Organisms)	..		78	—	78
Bovine Sputum	..	..	—	102	102
Gonococci	..	..	3	—	3
Other Examinations	..		112	—	112
Total	..		1597	1138	2735

VII.—HOUSING.

The number of new houses built during the past ten years in each Ward and certified as fit for human habitation in accordance with the Bradford Waterworks and Improvement Act, 1871, is shown in the Table on page 82. The following statement shows the number of new buildings certified each year since 1901 as fit for human habitation.

Year.	New Buildings.	Year.	New Buildings.	Year.	New Buildings.
1901	967	1906	655	1911	396
1902	1023	1907	637	1912	393
1903	1238	1908	486	1913	349
1904	1458	1909	476	1914	394
1905	1057	1910	626	1915	306
1901 -05	1149 (average)	1906 -10	576 (average)	1911 -15	368 (average)

It will therefore be noticed that during the past ten years there has been a serious diminution in the number of new houses being built.

NEW BUILDINGS.

Showing number of New Buildings certified as fit for habitation in each of the Wards, and in the whole City, during the years 1906-1915.

WARDS.			1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.
Allerton	...	...	14	43	35	29	62	40	21	10	13	10
Bolton	...	...	5	14	7	32	55	15	10	13	3	...
Bradford Moor	...	...	117	130	103	84	50	31	81	60	31	38
East	...	...	7	21	...	21	1	14	10	...	23	14
East Bowling	...	...	14	57	38	10	3	12	39	6	3	...
Eccleshill	...	...	59	33	33	17	46	23	25	31	20	16
Exchange	...	...	...	...	...	...	...	...	...	...	2	1
Great Horton	...	...	48	48	45	30	42	37	32	58	62	26
Heaton	...	...	102	88	62	29	23	11	34	38	40	43
Idle	...	...	19	9	12	6	13	21	10	32	36	34
Listerhills	...	...	...	5	...	...	...	...	...	...	...	...
Little Horton	...	...	83	15	22	42	16	4	4	7	2	...
Manningham	...	...	13	7	...	52	88	68	42	24	37	17
North	...	...	21	8	9	18	3	20	6	2	...	...
North Bierley East	...	...	21	41	19	17	4	8	8	...	3	13
North Bierley West	...	...	1	6	...	5	44	29	20	21	48	28
South	...	...	28	23	...	15	...	...	1	1	...	...
Thornton	...	...	3	...	1	...	1	3	...	1	2	1
Tong	...	...	19	9	6	17	26	35	15	20	...	2
West	...	...	...	...	...	1	114	...	2	...	62	...
West Bowling	...	...	81	80	94	51	35	25	33	25	7	63
CITY TOTAL...			655	637	486	476	626	396	393	349	394	306

The following summary shows the number of houses dealt with under the Housing, Town Planning, &c., Act, 1909, and Local Acts:—

Number of Closing Orders made by Council	...	124
Number of Closing Orders determined	...	68
Number of Orders served for demolition	...	69
Number of houses demolished after service of Demolition Orders	...	41
Number of Orders served for Repairs	...	15

VIII.—FOOD.

(A) MILK SUPPLY.

So far as can be estimated it would appear that the average quantity of milk consumed in the city daily amounts to about 13,200 gallons, of which about 8,000 gallons is produced within the city boundaries, and about 5,200 gallons outside.

INSPECTION OF DAIRY CATTLE. This is carried out regularly by the veterinary inspector, who supplies the following report on his work during the year.

REPORT BY C. PITTS, M.R.C.V.S.

FARMS. There are at present within the city 400 farms, of which 274 are used as dairy farms, and 126 are chiefly for rearing or keeping cattle. The 274 dairy farms are visited regularly.

DAIRY Cows. There are approximately 3,288 dairy cows within the city which contribute to the milk supply. The dairy cattle have been excellent in quality during the year, and the

feeding, which is of the best, is such as to give good results to the milk. Greater care is now used in selecting cattle for milk production, to have younger and stronger animals without defective udders.

DAIRY INSPECTION. During the year 2,695 visits were made to dairy farms to inspect cowsheds, dairies and canhouses with regard to their sanitary conditions and cleanliness. Dairy farms were also visited daily for a period of ten days where cases of anthrax had occurred.

DAIRY ANIMALS INSPECTION. The number of inspections to dairy animals during the year was 37,995, attention being paid to the general health, and more particularly to the udders and milk.

MILK SAMPLES COLLECTED AND EXAMINED. Milk samples were collected for examination from cows which had recently calved, unthrifty looking animals, those having any part of their udders enlarged or indurated, and all animals suffering from any disease. The number of samples taken was 974. These were examined by the microscope for tubercle bacilli, pus, and other organisms, and in twenty-three samples tubercle bacilli were found. Two hundred and thirty-six samples contained pus, nineteen samples contained blood: these were collected from animals recently calved; and four samples of milk from udders of dairy cows which had recently died of anthrax were found to contain large numbers of anthrax bacilli.

Many samples of milk when taken direct from the udder appeared normal, but when allowed to stand at rest in a test tube for a short time a deposit of pus cells was found at the bottom. In these cases the owners were notified not to sell or mix and sell milk containing pus cells for human food. After this notice the inspector of food and drugs intercepts the dairyman in his delivery

of the milk and purchases samples, which were examined particularly for pus cells. The result of this examination determined further action.

During the year three samples of mixed milk from sources beyond the city boundaries were found to contain tubercle bacilli. One farm was visited and the dairy cattle examined, and a sample of milk taken from one cow having one quarter of its udder slightly enlarged. The milk from this quarter was examined the same evening by microscope and was found to contain large numbers of tubercle bacilli. The animal remained on the farm seven days after having been found to be suffering from tuberculosis of the udder, the tuberculosis orders having been suspended. The animal, which was giving about $2\frac{1}{2}$ to 3 gallons of milk per day was afterwards sold to a dealer and lost sight of. The second farm was visited and all the dairy animals were examined. The offending cow was found, and after four weeks remaining on the farm, was sold to a dealer outside the city and lost sight of. The third farm was visited and all the dairy cattle were examined. One animal, which was emaciated and coughing, and had one quarter enlarged, was found to be giving tuberculous milk. This beast was sent next day to a knacker's yard and destroyed. Samples of mixed milks were taken from these farms for biological testing for tubercle bacilli, to ascertain if the source of contamination to the milk had been removed. All the samples were found negative.

One complaint of a peculiar odour of milk was investigated, and it was found that the odour was due to the scouring material not having been properly washed off after scouring the internal surfaces of the milk vessels. Care was afterwards exercised, and there was no further complaint.

Two complaints from milkmen of sour milk were investigated.

The farms were visited and the cattle examined, and samples of milk collected from every teat; no defects were found, and the samples of milk collected did not sour during the period of 72 hours.

OTHER MICROSCOPIC EXAMINATIONS. When inspecting cowsheds during the time the cattle are at grass, all parts of the stalls and also the mangers are examined for mucus which has been expelled by coughing. One hundred and two specimens were collected and examined by the microscope, and sixty-nine of them were found to contain large numbers of tubercle bacilli, and as a result of such examinations a great many of the dairy cows in the city have been isolated and destroyed. Thirty-three specimens of mucus from animals suffering from cold or irritation of the pulmonary bronchus, were found negative.

During the year 85 dairy animals were found to be suffering from tuberculosis and removed from the cowsheds. Sixty-nine were found to be suffering from tuberculosis not affecting the udder; these were found by examining the mucus expelled by coughing, and were disposed of in the following manner:—

19 were slaughtered for human food, 15 of these were passed for human consumption after the diseased parts had been removed, and 4 were totally destroyed.

14 were destroyed at knackers' yards.

36 were sold to dealers and lost sight of.

Sixteen dairy cows were found by microscopic examination of the milk to be suffering from tuberculosis of the udder, and were disposed of in the following manner:—Three animals were slaughtered for human food; two were passed for human consumption after the diseased parts had been removed; one totally destroyed; four were destroyed at knackers' yards; and nine were sold to dealers and lost sight of.

One dairyman was prosecuted under Section 17 of the Regulations of Dairies, Cowsheds and Milkshops Orders, and a penalty obtained of £5, and 14s. costs, for dirty cowsheds and dairy cows. Two dairymen were prosecuted under Sections 38, 39 and 40 of Part 5 of the Bradford Various Powers Act, 1900, and Section 16 of the Regulations of Dairies, Cowsheds and Milkshops Orders. Penalties in both cases were obtained of £4 10s. each. The offences were for not notifying to the Medical Officer of Health a cow suffering from a tuberculous udder, mixing tuberculous milk with other milk and selling for human consumption, and failing to isolate the diseased animal.

Milk coming straight from the cow was filtered at one dairy farm, and a prosecution was taken under Section 16 of the Regulations of the Dairies, Cowsheds and Milkshops Orders. A penalty of 20s. was obtained. This being the first case, it is hoped that it will have a good effect regarding careless handling of milk, as it is impossible to extract from milk certain contaminations which have been admitted.

SUMMARY OF INSPECTIONS AND WORK DONE.

- 400 Farms in the city.
- 274 Dairy farms.
- 477 Cowsheds.
- 3,288 Dairy cows (approx.).
- 2,695 Visits to dairy farms.
- 5,843 Inspections of cowsheds.
- 37,995 Inspections of dairy cattle.
- 974 Samples of milk collected and examined; 700 were found free from pus; 236 contained pus; 23 contained tubercle bacilli; 11 contained blood; 4 contained anthrax bacilli.

102 Specimens of mucus expelled by coughing collected and examined; 67 contained tubercle bacilli; 35 were negative.

31 Bottles of milk which had been purchased from dairymen during delivery from farms where defective udders were found. On examination these were found to be free from pus except in one case, which contained pus and tubercle bacilli. The owners were prosecuted.

§5 Dairy animals were found to be suffering from tuberculosis:

16 affected with tuberculosis of the udder; 9 of these were sold to dealers and lost sight of; 4 were totally destroyed at knackers' yards; 3 were slaughtered for human food; 2 were passed after the diseased parts had been removed; 1 was totally destroyed.

69 not affected with tuberculosis of the udder:

36 were sold to dealers and lost sight of; 14 were destroyed at knackers' yards; 19 were slaughtered for human consumption; 15 were passed after the diseased parts had been removed; 4 were totally destroyed.

1 Person prosecuted for dirty cowsheds and dirty cows.

2 Persons were prosecuted for not notifying a cow suffering from tuberculosis of the udder to the Medical Officer of Health, for failing to isolate the animal, mixing the milk from the diseased udder, and selling tuberculous milk.

1 Person was prosecuted for not exercising due diligence to prevent the exposure of milk belonging to him to uncleanness or contamination.

COWSHEDS.—There were at the end of the year within the city 274 dairy farms, containing 477 cowsheds. During the past year 2,488 visits have been made to these premises.

The following improvements have been carried out during the year, at the instance of the Local Authority:—

Cowsheds Reconstructed	...	...	...	...	...	2
Additional Light Secured	...	...	...	...	...	6
Proper Ventilation Provided	...	...	...	...	...	7
Additional Air Space	...	...	...	...	...	6
Drains Relaid or New Drainage Provided	...	...	...	...	...	10
Paving (repaired or renewed)	...	...	...	...	...	10
Walls smoothed to facilitate cleansing	...	...	...	...	...	5
New Dairies Provided	...	...	...	...	...	29

The whole of these improvements were personally supervised by the Inspector of Cowsheds. During the past twelve months 15 persons have been registered as cowkeepers, while the occupiers of 14 farms have discontinued keeping dairy cows.

The following notices were served in respect of cowsheds:—

Dirty condition of Cowsheds and Dairy Cows	...	...	...	...	...	3
Manure Tank overflowing	...	...	...	...	...	5
To Limewash Cowsheds	...	...	...	...	...	52
Total	...	...	...	...	...	60

MILK SHOPS, DAIRIES, AND PURVEYORS OF MILK.

There were at the end of the year 385 vendors of milk registered and residing within the city.

During the year 25 new milk purveyors were registered.

These registered milk vendors may be classified as follows:—

Cowkeepers and Retailers	...	...	...	132
Retailers only (in the streets or from their homes)	...			145
Milkshops (including dairies, confectioners, small grocers, restaurants, and other shops)	...	...		108

The number of visits made to these premises was 750, and generally the premises were found in a fairly satisfactory state.

In addition to these 385 vendors residing in Bradford, 54 dairy-men came into the city from surrounding districts to sell milk by retail.

Three milk purveyors were cautioned for selling milk from milk vessels not conspicuously inscribed with the name and address. Each of them afterwards complied with the requirements.

The milk supply produced within the city is supplemented from 199 sources outside the boundary. From these sources the milk arrives in Bradford in 97 cases by rail, in 19 by tramways, and in 83 cases by road. The total amount of milk produced outside the city boundary and consumed within is estimated to be about 5,200 gallons daily.

BACTERIOLOGICAL EXAMINATION OF MILK.

Sixty-two samples of milk were obtained and submitted to the Leeds School of Medicine to be tested for tubercle bacilli by inoculation tests. Eight of these were reported to be tuberculous.

The following details may be given with respect to the samples proving tuberculous:—

Sample (272) dealt with in last year's Report.

Sample (274) was from a mixed milk coming from outside the city, and was obtained from a milk purveyor to whom the milk is consigned, as he was delivering in the street. The cowshed was visited and the cows examined by the Veterinary Inspector. One cow was found with a suspected udder, and samples taken (Nos. 280 and 281) from separate quarters. Both these were reported as tuberculous. The cow was afterwards sold at the Otley Market and lost sight of.

Sample (276) was from a mixed milk produced within the city and purchased in the street from the cowkeeper, who is also a milk purveyor. This man had been previously informed by the Veterinary Inspector that a certain cow was suffering from tuberculosis of the udder, and requested to isolate the cow and not to allow the milk to be mixed with that of other cows, nor to allow the milk to be sold for human consumption. He was fined £4 for selling milk from a tuberculous udder, and £2 for mixing the milk from a diseased cow with other milk.

Sample (313) was from a mixed milk coming from outside the city and obtained as the milk was being delivered to customers. The cowshed was visited and the cows examined by the Veterinary Inspector. Three samples were taken from suspected udders, and one of these (No. 321) was reported tuberculous. The cow was afterwards sent to the knacker's yard.

Sample (316) was from a cow already isolated and suspected of a tuberculous udder. This suspicion was confirmed by the inoculation test.

Thirty-five samples of milk were obtained in the streets and examined for pus.

One hundred and fifteen samples of milk were examined for organisms during the year. The bacterial counts varied from 3,000 organisms to 16 millions per cubic centimetre.

In eight of these the bacterial count was 10,000 or under per cubic centimetre; in twenty-eight between 10,000 and 50,000; in twenty-three between 50,001 and 100,000; in twenty-one between 100,001 and 250,000; in thirteen between 250,001 and 500,000; in ten between 500,001 and 1,000,000; in eleven between 1,000,000 and 10,000,000; and one was 16,000,000.

CHEMICAL EXAMINATION OF MILK.

During the year 485 samples of milk were analysed by the City Analyst, and the results are shown in tabular form on the following page. These show that 2.8 per cent. of the samples gave an analysis under 3.0 per cent. of fat, and 78.7 per cent. over 3.5 per cent. of fat, whilst 5.7 per cent. of these samples gave an analysis under 8.5 per cent. of non-fatty solids, and 55.4 per cent. over 9.0 per cent. of non-fatty solids. The total number below 3.0 per cent. of fat and 8.5 per cent. of non-fatty solids was 42, or 8.6 per cent. of the samples.

RESULTS OF MILK ANALYSIS, 1915.

93

Per cent.	Fat												Total										
	Unfat'r 2·5 2·5	2·6	2·7	2·8	2·9	3·0	3·1	3·2	3·3	3·4	3·5	3·6	3·7	3·8	3·9	4·0	4·1	4·2	4·3	4·4	4·5	4·6 % over	
Under 7·5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
Over 7·5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
7·6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
7·7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
7·8	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	
7·9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8·0	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
8·1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5	
8·2	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6	
8·3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7	
8·4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	
8·5	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24	
8·6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13	
8·7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42	
8·8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
8·9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	47	
9·0	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62	
9·1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	67	
9·2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87	
9·3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59	
9·4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29	
9·5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17	
9·6 and over	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	
Totals ..	3	—	2	1	5	3	8	10	19	20	32	29	42	54	64	49	33	32	19	11	16	7	485

Non-Fatty Solids.

Municipal Milk Depot. The business done at the Milk Depot is shown in the following tabular statement :—

	1913-14	1914-15	1915-16
Humanized Milk sold (bottles)	5,875	571	Nil
Sterilized Milk sold (pints)	14,543	8,410	9,412
Raw Milk sold, wholesale and retail (galls.)	101,156	176,989	101,770
Sterilized Milk supplied to Hospitals (pints)	436	Nil	Nil
Raw Milk supplied to Hospitals (galls.) ..	5,225	18,160	19,185

(B.) SALE OF FOOD AND DRUGS ACTS.

The number of samples of food and drugs taken under these Acts and submitted to the Public Analyst for analysis by the Food and Drugs Inspector was 839. Of these 776 were certified as genuine, and 63 as adulterated or doubtful.

In 21 cases the vendors were summoned before the Magistrates for adulteration of food and drugs, and one for selling margarine by retail in an unmarked wrapper.

Penalties and costs amounting to £23 8s. 6d. were inflicted.

In addition four seizures of tinned salmon which were bad and unfit for human food were made. Proceedings were taken against the dealer. One case was dismissed, and penalties inflicted in the remaining three. In the first case the fine was £1; in the second £1; and in the third case £10; all against the same person and referring to exposures for sale on different dates. This person occupied a stall in Rawson Place Market, known as the "Open Market." The Health Committee, after a third conviction, drew the Markets Committee's attention to the seriousness of continuing to permit such a person to occupy a stall in a public market, with the result that the permission to so occupy was refused by the Markets Committee.

Under special arrangement 31 samples were submitted by the traders and others for analysis. Of these 21 were certified genuine, and 10 adulterated.

The following table shews the nature of articles submitted for analysis:—

SAMPLES TAKEN.

		Number submitted	Adulterated or Doubtful
Milk	...	496	43
Cream	...	20	4
Butter	...	64	—
Cheese	...	22	1
Bread and Butter	..	4	—
Margarine	..	29	—
Lard	...	34	—
Rice	..	10	—
Pepper	..	9	—
Jam	..	7	—
Coffee	..	9	3
Other Articles of Food		56	4
Drugs	..	79	8
Total	..	839	63

The action taken is set out in the following table and text:—

MILK.

Sample No.	Deficiency in Fat, per cent.	Added Water, per cent.	Other Adulteration	Fines	Costs	Remarks
6922	—	—	51 parts per million of fluid dirt	£ s. d. 0 10 0	£ s. d. 0 9 0	
6923	—	—	48·7 parts per million fluid dirt	0 10 0	0 9 0	
7014	—	5·8	—	0 10 0	0 7 0	
7015	4·0	—	—	—	—	
7016	6·0	—	—	0 10 0	0 7 0	Dismissed
7032	—	—	42 parts per million fluid dirt	1 0 0	—	
7087	11·0	6·6	—	1 0 0	0 10 6	
7199	—	6·8	—	0 10 0	0 8 0	
7201	—	9·1	—	0 10 0	—	
7203	—	15·7	—	—	—	Dismissed
7204	—	4·9	—	—	—	Dismissed
7206	—	12·2	—	0 10 0	—	
7282	8·7	—	—	—	—	Dismissed
7283	—	19·2	—	3 0 0	0 4 0	
7287	—	3·0	—	—	—	Dismissed
7288	—	·2	—	—	—	Dismissed
7509	—	—	1·2 grains boric acid per pint	0 2 6	0 10 6	
7647	—	5·1	—	0 15 0	0 13 6	2nd conviction this year

NOTES:—Samples 7014, 7015, and, 7016 were from the same cowkeeper. Later in the year No. 7647 was obtained from the same person.

Samples 7199, 7201, 7203, 7204, 7206, and 7207 were from the same cowkeeper, who resided outside the City; these were preceded by an unofficial sample which contained 3·1% of added water and was deficient in fat to the extent of 45·2%. The samples were obtained on different dates. This person has since retired from the business of cowkeeper.

Samples 7282, 7283, 7287, and 7288 were from the same cowkeeper and obtained on two different dates. This person has since retired from the business of cowkeeper.

No proceedings were taken respecting samples shewing 0.3, 0.6, 0.7, 0.9, 1.1, 1.6, 1.4, 1.7, 1.9, 2.1, 2.3, 2.5, 2.6, 2.8, 3.3, and 4.0 per cent. of added water; sample shewing 6.7 per cent. deficiency in fat was cautioned by the Committee. Samples shewing 24.0, 26.6, 33.3, 35.5, and 39.0 parts per million of fluid dirt were informed of the need for greater cleanliness in the production of milk on their premises.

There were three samples of separated milk, two of skimmed milk, and two of buttermilk taken; these were all genuine.

CREAM. Twenty samples were taken and four reported against under the Milk and Cream Regulations, but no proceedings taken.

CHEESE. Twenty-two samples were taken, and one sample was reported as doubtful and containing 30.0 per cent. of margarine fat, or the fat was of abnormal character, only to be accounted for if the cows were abnormally fed, *e.g.*, with a large amount of cotton cake.

COFFEE. Nine samples were taken and three were reported against. One unofficial sample contained 40.0 per cent., and one 34.0 per cent. of chicory, and were followed by an official sample which contained 46.0 per cent. of chicory. The vendor was proceeded against, and fined £2, including costs.

COCOA. Seventeen samples were taken and one was reported as doubtful.

ORANGES. One sample of oranges was reported as doubtful, because of the skins having been treated with boiled oil to polish them and improve their appearance.

DRIED APRICOTS. Two samples were taken and reported as doubtful. One contained 3.85 grains per lb. of sulphur dioxide and the other 7.14 grains.

OTHER FOODS. The following are the samples of other foods taken and certified genuine:—

Condensed Milk	3	Lemon Curd	...	1	Tinned Soup	...	1				
Skimmed Milk	2	Honey	...	3	Corn Flour	...	4				
Buttermilk	...	2	Golden Syrup	...	3	Oatmeal	...	2			
Powdered Milk	...	1	Margarine	...	29	Sugar	...	4			
Butter	64	Lard	34	Yeast	1
Bread and Butter	4	Rice	...	...	10	Baking Powder	...	5	
Jam	7	Tapioca	2	Arrowroot	...	2	
Pepper	9	Pearl Barley	...	1	Ground Ginger	...	3		
Mustard	...	7									

DRUGS.

ZINC OINTMENT. Five samples were taken and two were reported against. One unofficial sample was followed by an official sample. They contained no zinc oxide, and were simply mixtures of dry white lead with lard.

The vendor was proceeded against and fined £5 and 12s. 6d. costs. This is the third conviction of this person.

POTASSIUM CHLORATE. Three samples were taken and were reported as containing 90, 25, and 25 parts per million of lead.

CONSUMPTION MIXTURE. Three samples were examined and reported doubtful, as the substances present were not credited with being curative of consumption.

OTHER DRUGS. The following are the samples of other drugs taken and certified genuine:—

Citric Acid	4	Olive Oil	3
Cream of Tartar	7	Boracic Ointment	3
Gregory Powder	3	Glycerine	3
Milk of Sulphur	2	Castor Oil	1
Compound Liq. Powder ...	6	Camphorated Oil ...	2
Spt. of Sal Volatile ...	2	Cod Liver Oil ...	2
Salicylic Acid	3	Borax	1
Tartaric Acid	3	Bi-Carb. of Potash	2
Seidlitz Powder	2	Pot. Carb.	2
Potassium Iodide ...	1	Cit. Potash	1
Salicylate of Soda...	1	Soap Liniment ...	2
Resin Ointment	1	Tinc. of Iodine ...	2
Boracic Acid	2	Phenacetin ...	1
Amm. Tinc. Quinine ...	1	Flowers of Sulphur ...	2

(C) SLAUGHTERHOUSES AND MEAT INSPECTION.

The number of private slaughterhouses in the city is 41, and one knacker's yard. Fourteen of these are subject to annual licence, and 27 are registered slaughterhouses. The knacker's yard is a licensed slaughterhouse.

Over 1,800 visits have been paid to these premises during the year.

Seven hundred and eighty-two visits have been made to butchers' shops open on Sundays for the sale of meat. No irregularities were observed.

No seizures have been effected during the year.

A cow slaughtered at Bolton Lane Abattoir was found to be suffering from anthrax, also a case of swine fever was found at a private slaughterhouse. These were referred to the City Police, who dealt with the cases under the provision of the Contagious Diseases (Animals) Act.

There are 249 premises where potted meat and sausage are prepared, and 3,935 visits have been made to them during the year. These places are usually found to be clean and satisfactory.

The public markets are visited daily, and the meat at the Hospital at Leeds Road, the Poor Law Union, and the Open Air School, Thackley, is inspected regularly.

The number of carcases condemned wholly or partly during the year was 1,205. These were as follows:—

CARCASES WHOLLY OR PARTLY CONDEMNED.

	Wholly	Partly	Total
Cows	79	423	502
Heifers	5	63	68
Bullocks	6	26	32
Calves	46	32	78
Sheep	76	32	108
Pigs	185	232	417
Totals	397	808	1205

The total weight of meat found unwholesome or unsound and destroyed was as follows:—

WEIGHT IN LBS.				
Beef ..	..	..	..	46,516
Veal ..	..	..	..	2,607
Mutton ..	..	..	..	5,082
Pork ..	..	..	..	38,808
Offals ..	..	..	..	28,359
Total ..	..	..	..	121,372 lbs.
54 Tons, 2 cwts., 76 lbs.				

The total number of animals slaughtered in the Public Abattoirs is as follows:—

	St. James's	Bolton Lane	Total
Beasts ..	15172	1915	17087
Sheep ..	23485	4784	28269
Lambs ..	4700	1031	5731
Calves ..	3439	1287	4726
Pigs ..	14325	5889	20214
Totals ..	61121	14906	76027

Of these animals 486 beasts and 212 pigs were found tuberculous. The extent and incidence of the disease is shown in the following table :—

TUBERCULOUS CARCASSES AT PUBLIC ABATTOIRS.

	Beasts		Pigs	
	No.	Per cent.	No.	Per cent.
Wholly destroyed	61	.0036	85	.0042
Partially destroyed	50	.0029	44	.0021
Internal organs only destroyed	375	.0219	83	.0041
 Totals	486	.0284	212	.0104

(D) OTHER ARTICLES OF FOOD.

The total quantity of fish, game, poultry, fruit and vegetables destroyed during the year amounted to just under 45 tons.

Daily inspections of food stuffs are made at St. James's and Rawson Place Markets.

One seizure of unsound rabbits was made from a wholesale dealer. Proceedings were instituted against the offender, who was convicted, and fined £5.

Forty-three applications were entered on the books at the Markets requesting inspection of goods, which in each case were found unfit for human consumption, surrendered to the inspector, and destroyed.

Seven hundred and ninety-four visits have been made to retail fish, game and poultry dealers' premises, and all found satisfactory. There seems to have been greater care exercised on account of the much higher prices prevailing owing to the war.

Summary of Police Court proceedings:—

Prosecutions	...	...	...	...	...	24
Convictions	...	...	...	...	...	24
Penalties	...	...	...	...	£26 1s.	

On 24 occasions the Inspector found food stuffs exposed for sale that were unfit for food, weighing 32½ cwts., and which were surrendered to the Inspector upon the owner's attention being drawn to their unsatisfactory condition.

The circumstances did not warrant proceedings being instituted against the owners, who were cautioned.

FRIED FISH SHOPS.

At the close of the year there were 305 fried fish shops in the city. Six have been temporarily closed, the proprietors having joined His Majesty's Forces.

During the same period 756 visits have been made to fried fish shops, and it is satisfactory to report that not a single seizure of unsound fish has been made at these shops.

There have been 19 prosecutions for breaches of the Offensive Trades Bye-laws, nineteen convictions being recorded and penalties amounting to £17 18s. inflicted.

In spite of the seemingly large number of prosecutions for breaches of the Bye-laws, there is a steady improvement both in the equipment and arrangements of fried fish shops in the city.

Nearly all fried fish shops have been fitted with ranges and appliances for conducting the steam and vapour into the flues, and then into the open air at such a height as to cause proper diffusion, and thus reduce to a minimum the nuisance arising from escaping vapour.

It is also satisfactory to report that although there is a great increase in the cost of raw materials (fish, potatoes, dripping, etc.) nothing but the very best are used in fish frying establishments, and certainly one of the most pleasing features is the knowledge that both fish and potatoes sold in the poorer districts are as good in quality and generally prepared under equally satisfactory conditions as in the better parts of the City.

During the year five applications were made to the Health Committee asking permission to establish fried fish shops. Four applications were allowed and one refused.

RABBIT SKIN DRYING.

Two summonses were issued against one person for establishing a rabbit skin drying business without first having obtained the permission of the local authority. He was fined 10s. and 3s. respectively.

PROSECUTIONS FOR BREACHES OF OFFENSIVE TRADE BYE-LAWS.

No. of case.	Trade.	Offence.	Action taken.	Penalties. £ s. d.
1	Fish Frier	Failing to comply with offensive Trade Bye-laws ..	Prosecution	5 0 0
2	do.	Failing to provide side screens	do.	0 12 0
3	do.	Failing to cleanse cooking range	do.	0 12 0
4	do.	Failing to provide side screens	do.	0 5 0
5	do.	Failing to cause vapour to be discharged into the open air	do.	0 5 0
6	do.	Failing to raise chimney ..	do.	0 5 0
7	do.	Failing to provide Hood ..	do.	0 3 0
8	do.	Failing to cleanse range ..	do.	0 17 0
9	do.	Failing to provide receptacles for refuse	do.	0 17 0
10	do.	Failing to provide hood or lids	do.	0 17 0
11	do.	Did establish an offensive trade without permission of the local authority ..	do.	1 9 0
12	do.	Do.	do.	1 7 0
13	do.	Failing to provide hood or lids	do.	0 12 0
14	do.	Failing to limewash ..	do.	1 7 0
15	do.	Failing to cleanse cellar ..	do.	0 17 0
16	do.	Failing to provide hood or lids	do.	0 10 0
17	Skin Drier	Did establish an offensive trade without permission of the local authority ..	do.	0 10 0
18	do.	Did continue to carry on an offensive trade	do.	0 3 0
19	Fish Frier	Failing to cleanse pan ..	do.	0 3 0
20	do.	Storing fish kits on premises	do.	1 0 0
21	do.	Failing to provide receptacles for refuse	do.	1 0 0
				£18 11 0

SHELL FISH.

The supplies of shell fish from British shell fish beds and layings have been considerably curtailed on account of the large number of men joining the Army and Navy.

Many are also engaged on munition work, but our own supplies have been largely augmented from Holland.

Ten samples of shell fish were submitted to the City Bacteriologist. Two samples were also submitted to Professor Klien, Bacteriologist to the Fishmongers' Company, London.

The two latter samples were consigned from Glasson Dock, and having regard to the Professor's report, the Inspector sought an interview with all the shell fish merchants, who gave an undertaking not to sell any more mussels from the infected beds or layings until they received official information that the mussels were clean and free from dangerous pollution.

The Medical Officer of Health took steps to inform the Sanitary Authority in which the shell fish laying was situate of the results of the examinations made, in accordance with the Public Health (Shell-fish) Regulations, 1915.

No further consignments of mussels were received from Glasson Dock.

RESULTS OF BACTERIOLOGICAL EXAMINATION OF SHELL FISH.
Mussels.

No. of Sample.	Date Received in Market.	When Sample taken.		Date of issue of Certificate.	Source of Sample.	RESULT.		
		Date.	Time.			Bac. Coli.	Streptococcus.	Typhosus.
1	Oct. 11/15	Oct. 11	7.15	Oct. 16/15	Glasson Dock	—	—	—
2	Oct. 11/15	Oct. 11	7.15	Oct. 16/15	Galway	Scanty	—	—
3	Oct. 11/15	Oct. 11	7.15	Oct. 16/15	Morecambe	Scanty	—	—
4	Oct. 11/15	Oct. 11	7.15	Oct. 16/15	Glasson Dock	Scanty	—	Enteritidis Reaction do.
5	Oct. 8/15	Oct. 8	7.15	Oct. 16/15	Hoylake	—	—	—
6	Oct. 18/15	Oct. 18	7.30	Oct. 25/15	Park Gate, Cheshire	Present	—	—
7	Oct. 25/15	Oct. 25	7.25	Nov. 2/15	Glasson Dock	Scanty	Present	—
8	Oct. 25/15	Oct. 25	7.25	Nov. 2/15	Glasson Dock	—	Scanty	—
9	Oct. 25/15	Oct. 25	7.25	Nov. 2/15	Glasson Dock	Present	—	—
10	Nov. 5/15	Nov. 5	6.25	Nov. 8/15	Hull	—	—	—

Sample No. 31 submitted to Prof. Klien. Result:

Of six mussels examined four have Bac. Coli. Com. per 1/10 c.c. Two specially examined, 1 has Strep. 1/10 c.c. Two specially examined, both have B. Sporog. per 1/10 c.c. Mussels not satisfactory.—KLIEN.

Sample No. 32.

Of six mussels three have Bac. Coli. Com per 1/10 c.c. Two specially examined have Strep. per 1/10 c.c. Two specially examined have B. Sporog per 1/10 c.c. Mussels doubtfully clean.—KLIEN.

ICE CREAM MAKERS' PREMISES.

During the year 753 visits have been made to ice cream makers' premises.

There continues to be a steady improvement amongst the Italian ice cream manufacturers, both in methods of manufacture and storage. There is also a marked change in the cleanliness of the homes of these people.

Two persons were proceeded against for breaches of the Ice Cream Regulations, being fined 10s. and 40s. respectively.

PROSECUTIONS FOR BREACHES OF THE ICE CREAM REGULATIONS.

No. of Case.	Offence.	Penalties.	Remarks.
		£ s. d.	
1	Failing to exercise due precautions...	0 10 0	First offence
2	Do.	2 0 0	Third offence

PROSECUTIONS UNDER THE PUBLIC HEALTH ACT, 1875.

No. of Case.	Nature of Food Seized.	Penalties.	Remarks.
		£ s. d.	
1	4 Rabbits	5 0 0	Previously convicted

FISH CURING PREMISES.

Two hundred and fifty-one visits have been made to fish curing premises in the city, and on each occasion they were found clean and otherwise satisfactory.

AMERICAN GOOSEBERRY MILDEW.

Three thousand four hundred and fifty-seven lbs. of diseased gooseberries were seized by the Inspector, but no proceedings were instituted, as some confusion existed as to whether the local authority or the Board of Agriculture should take proceedings against the consignors and fruit growers, for breaches of the American Gooseberry Mildew Order.

ARTICLES OF FOOD SURRENDERED.

The following is a summary of the articles of food examined by the Inspector and found unfit for human consumption:—

					Tons.	Cwts.	Qrs.	Lbs.
Wet Fish	..	..	..	..	0	8	1	25
Dry Fish	..	..	..	..	0	8	3	14
Shell Fish	..	..	..	..	5	2	0	3
Game and Poultry	..	..	..	..	0	0	3	3
Rabbits	..	..	..	..	1	18	3	14
Fruit	..	..	..	..	20	11	0	26
Vegetables	..	..	..	..	16	7	2	0

IX. WORKSHOP AND SHOP INSPECTION, &c.

(A) FACTORY AND WORKSHOP ACTS, 1901.

INSPECTIONS.

The total number of workshops on the register is now 2,474, and of bakehouses 465, as compared with 2,365, and 478 respectively last year.

Two male and one female Inspectors are engaged almost wholly on workshop and shop inspection, and they are assisted by the District Sanitary Inspectors.

		Workshops	Bakehouses
Visits made by the Shop Inspectors	.. ..	2855	1203
,, ,, Sanitary Inspectors	.. ..	644	—
Total	.. ..	3499	1203

Special attention is paid to the cleanliness, ventilation, air space, closet accommodation and general sanitary condition of these places, as required by the Public Health Acts and Factory and Workshop Acts.

FAILING TO KEEP LIST OF OUTWORKERS.

Twenty-seven employers were found who had failed to keep on their premises a list showing the names and addresses of all persons employed by them outside such premises, as required by the Factory and Workshop Act, 1901. In each case the offender was warned.

NOTIFICATION OF OUTWORKERS EMPLOYED.

Two hundred and fifty-four employers who had failed to send in on the 1st of February and the 1st of August a list of outworkers employed by them, as required by the Factory and Workshop Act, 1901, were warned, and your Committee allowed one month's grace to enable them to comply with the requirements, as a result of which 244 lists were duly received within that period. In the remaining 10 instances the employers were prosecuted and total penalties and costs of £10 17s. were imposed.

SANITARY DEFECTS IN WORKSHOPS, &c.

The following is a summary of the sanitary and other defects found to exist in workshops, workplaces, and bakehouses. With slight exceptions the defects have all been remedied. During the year the Factory Inspectors—both male and female—in pursuance of section 5 of the Factory and Workshop Act, 1901, have made 67 complaints in writing to the Town Clerk, relative to the sanitary condition of factories and workshops in the city. The Inspectors investigated the complaints, and where necessary caused statutory notices to be served for the various breaches of the Act. At the close of the year the requirements of nearly all the notices had been complied with.

	Particulars.	No. of cases.
Workshops without Abstract of the Factory and Workshop Act (notified to H.M. Inspector of Factories)	92
Other reports from H.M. Inspector of Factories	...	4
Dirty workshops limewashed and cleansed	...	234
Dirty bakehouses limewashed and cleansed	...	183
Workshops without separate closet accommodation for the sexes	9
Workshops without closet accommodation	...	3

Workshops with insufficient closet accommodation ...	3
Workshops with foul or defective w.c.'s or privies ...	123
Workshops which were overcrowded	2
Workshops where additional ventilation was required	30
Gas stoves without provision for carrying off fumes...	11
Baking underground without a certificate	1
Room on same level as bakehouse used as a sleeping place contrary to provisions of Sec. 100	1
Bakehouse unfit for use on sanitary grounds	1
Dangerous places in workshops	2
Various other nuisances	76
<hr/>	
Total	775

**FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES
AND HOMEWORK.**

I.—INSPECTION.

**INCLUDING INSPECTIONS MADE BY SANITARY INSPECTORS OR
INSPECTORS OF NUISANCES.**

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
FACTORIES (Including Factory Laundries)	536	144	—
WORKSHOPS (Including Workshop Laundries)	4702	202	—
WORKPLACES (Other than Outworkers' premises included in part 3 of this Report)	130	29	—
TOTAL	5368	375	—

II.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness	293	293	...	...
Want of ventilation	50	50	...	...
Overcrowding	2	2	...	...
Want of drainage of floors	2	2	...	...
Other nuisances	638	635	...	...
* Sanitary accommodation	insufficient unsuitable or defective ... not separate for sexes ...	37	37	...
		165	165	...
		32	31	...
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bakehouse (S. 101)	1	1	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100) ...	185	185	...	...
Other offences (Excluding offences relating to out-work which are included in part 3 of this Report).	...	...	...	...
TOTAL	1405	1401	...	..

* Sec. 22 of the Public Health Acts Amendment Act, 1890, adopted.

III.—HOMEWORK.

OUTWORKERS' LIST, SECTION 107.

OUTWORKERS' LIST, SECTION 107.

NATURE OF WORK.	List received from Employers.			Prosecutions.		
	Sending twice in the year.		Sending once in the year.		Notices served on Occupiers as to keeping or sending lists.	Failing to keep or permit inspection of lists.
	Outworkers.	Lists.	Outworkers.	Lists.		
WEARING APPAREL—						
(1) Making, &c.	... 290	244	498	5	179	
(2) Cleaning and Washing	... ...	6	... 34	... 92	... 4
Household Linen	... ...	... 2	... ...	... 179	... ...
Curtains and Furniture Hangings	... ...	... 76	... 2	... 2	... 17
Furniture and Upholstery	... 20	49	... 1	... 2	... 17	
Electro Plate	... ...	6	... 1	... 1	... 1
Carding, &c., of buttons, &c.	... 2	... 12	... 1	... 1	... 1	
Umbrellas, &c.	... 6	... 5	... 1	... 1	... 6	
Textile weaving	... 56	81	181 20	24 21	102 ...	
TOTAL.	... 374	398	775	30	116 305	
					... 10	

IV.—REGISTERED WORKSHOPS.

Workshops on the Register (S. 131) at the end of the year.	Number.
Workshops 	2474
,, Bakehouses 	465
Total number of workshops on Register ...	2939

Important classes of workshops, such as workshop bakehouses, may be enumerated here.

V.—OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Acts (S. 133, 1901) 	92
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory and Workshop Acts (S. 5, 1901)	
Notified by H.M. Inspector 	67
Reports (of action taken) sent to H.M. Inspector	80
Other 	4
Underground Bakehouses (S. 101) :—	
In use at the end of the year 	39

In the official tables on pages 114-117 will be found a statement of the work done under the Factory and Workshop Act, 1901. No outwork was found done in unwholesome premises (Sec. 108). In one case it was found that work had been given out to be done, viz.:—burling and mending of pieces, in a dwelling an inmate of which had been removed to hospital suffering from diphtheria. The pieces which had been exposed to infection were removed and disinfected, and then returned to the firm which had sent them out.

(B) SHOPS ACTS, 1912 AND 1913.

SHOPS INSPECTED.

The number of visits and investigations made to shops where young persons are employed was 3,085. In 153 shops the employers had failed to exhibit the notice referring to the provisions of the Act, and stating the number of hours during which young persons may be employed. Two of these, who had been previously cautioned, were prosecuted, and the remainder were cautioned. Forty-seven young persons were found employed in shops after having been previously on the same day employed in a factory or workshop for the full number of hours permitted by the Factory and Workshop Act, 1901. In one case the employer was prosecuted, and the remaining employers were warned that a repetition of the offence would involve prosecution. In one case an employer was found to have employed a young person in a shop for more than seventy-four hours in one week, and he was prosecuted.

Special visits were made to 259 shops where female assistants are employed, and enquiries made as to compliance with the provisions of the Act. Without exception it was found that the seats were provided as required by the Act.

A large number of day and night observations have been made to shops to see if the provisions relating to the weekly half holiday were carried out. In 81 cases it was found that no notice had been fixed specifying the day chosen by the shopkeeper for the closing of the shop on the weekly half holiday. One hundred and eight shops were found open and the occupiers selling non-exempted articles. In four cases proceedings were taken against the offenders, and the remainder were warned. Three hundred and eleven shops were found open and the occupiers not displaying the mixed trades notices specifying the exempted trade for which they were remaining open after the hour of closing on the weekly half holiday. All these persons were warned that a repetition of the offence would involve them in legal proceedings.

Eighteen hawkers were found selling goods in the street after the hour of closing on the day fixed for the weekly half holiday. In five cases where the offence had been repeated after warnings the offenders were prosecuted.

ASSISTANTS' WEEKLY HALF HOLIDAY.

In 318 cases it was found that the employer had failed to provide the prescribed form relating to their assistants' weekly half holiday. With one exception the offenders were warned, and legal proceedings taken against the other offender. In 34 shops assistants were found employed on the day fixed for their weekly half holiday after the hour of 1.30 p.m. In five of these cases proceedings were taken against the employers, and the remainder were warned.

INTERVALS FOR MEALS.

Forty-one cases were found where assistants were not having the correct intervals for meals as prescribed by the Act. One firm was prosecuted in regard to two cases, and the remaining employers were warned.

CLOSING ORDERS.

A large number of visits have been made by day and night after closing hours in connection with closing orders affecting various classes of shops. Closing orders are now in force affecting the following classes of shops:—Butchers, Hairdressers, Jewellers (Central Area), and Wearing Apparel shops.

Eighteen shops were found to be opened in contravention of these orders, and in two cases the occupiers were prosecuted. In the other cases the occupiers were warned that a future offence would involve prosecution. Twenty-five occupiers of shops were found not to be displaying official copies of the Closing Order, and these persons were all warned. One shop was found open and the

occupier not displaying the mixed trades notices specifying the exempted trades for which he remained open after the closing hour. This being his first offence he was warned.

JEWELLERS' (CENTRAL AREA) CLOSING ORDER.

In the month of April this Closing Order was duly confirmed by the Secretary of State, and requires that shops in this particular trade be closed on Mondays, Tuesdays, Thursdays and Fridays at 7.30 p.m., Wednesday (Weekly Half Holiday) at 1.0 p.m., and Saturday at 10 p.m.

BUTCHERS' SHOPS CLOSING ORDER AND WEARING APPAREL SHOPS CLOSING ORDER.

During the year a petition was received from the butchers of the city, asking the Council to amend the existing Closing Order, and fixing the closing hours as follows:—Monday, Tuesday, and Thursday, 7.0 p.m.; Wednesday (Weekly Half Holiday), 1.0 p.m.; Friday and Saturday, 10.0 p.m.

A petition was also received from shopkeepers in the following classes of trade, viz.:—Boots and Shoes; Drapery; Hats and Caps; Hosiery, Gentlemen's Garments; Ladies' and Children's Garments; Millinery; and other articles usually sold by persons carrying on any such trades or businesses, asking the Council to make a Closing Order fixing the hours of closing as follows:—Monday, Tuesday and Thursday, 8.0 p.m.; Wednesday (Weekly Half-Holiday), 1.0 p.m.; Friday, 9.0 p.m.; and Saturday, 10.0 p.m.

In both cases the Inspector verified the signatures, and ascertained that the two-thirds majority, as required by the Act, had been obtained in each case, with the result that the Orders were made by the Council and duly confirmed by the Secretary of State.

PORK BUTCHERS' SHOPS CLOSING ORDER.

Later in the year a petition was received from the Pork Butchers of the city asking that a Closing Order be made fixing the hours of closing as follows—Monday, Tuesday and Thursday, 9 p.m.; Wednesday (Weekly Half Holiday), 1.0 p.m.; Friday, 10.0 p.m.; Saturday, 11.0 p.m. The Inspector verified the signatures, and as the requisite two-thirds majority required by the Act had been obtained, the Order was made by the Council, and has since been confirmed with slight amendments (February 2/16) by the Secretary of State.

PROSECUTIONS.

The following summary shows that 23 prosecutions were undertaken under the Shops Act, 1912, and fines amounting to £6 6s. and £1 12s. costs were imposed.

Nature of Offence.	No. of Cases.	Penalties.			Costs.
		£	s.	d.	
Failing to allow assistants weekly half holiday	5	1	5	0	0 6 0
Failing to arrange and allow assistants meal intervals ..	2	1	0	0	..
Failing to exhibit prescribed form as to assistants' weekly half holiday	1	0	5	0	..
Failing to affix abstract relating to young persons	2	0	6	0	..
Employing young persons after factory	1	0	5	0	0 15 0
Employing young persons over 74 hours	1	0	5	0	..
Failing to observe weekly half holiday	4	1	0	0	0 4 0
Hawking on weekly half holiday	5	0	10	0	0 7 0
Failing to observe Closing Orders	2	1	10	0	..

(C) RAG FLOCK ACT, 1911.

During the year the Shops Inspector obtained and submitted to the City Analyst for analysis 23 samples of Flock. All the samples were found to conform with the standard prescribed by the Local Government Board Regulations under the Act.

(D) FABRICS (MISDESCRIPTION) ACT, 1913.

Convictions obtained last year in connection with the sample of Flannelette with a misleading description as to its non-inflammability or safety from fire would appear to have had good effects. The Shops Inspector has been unable during the year under review to obtain any samples of fabric to which were attributed expressly or inferentially the quality of non-inflammability, or safety from fire.

X.—CLOSET ACCOMMODATION.

During the year 2,229 privies and middens were converted into water closets, and middens in connection with the privies were replaced by ashes pits or dust bins.

Owing to the war this was a decrease of 1,035 compared with the previous year, and a decrease of 2,009 compared with 1913.

CONVERSIONS OF PRIVIES AND MIDDENS.

COMPARATIVE TABLE SHOWING THE PROGRESS MADE IN THE CONVERSION OF PRIVIES INTO WATER CLOSETS.

Year.	Dwelling-houses.		Factories and Workshops.		Other Premises.		Totals.	
	W.C.'s.	Privies.	W.C.'s.	Privies.	W.C.'s.	Privies	W.C.'s.	Privies.
1908	1854	25	254	2	78	5	2186	32
1909	1969	12	194	2	28	1	2191	15
1910	1945	18	217	2	—	—	2162	20
1911	2128	8	202	—	35	2	2365	10
1912	2917	9	196	—	95	—	3208	9
1913	3990	1	160	—	88	—	4238	1
1914	3123	1	127	—	14	—	3264	1
1915	2028	—	151	—	50	—	2229	..

ESTIMATE OF SANITARY ACCOMMODATION AT THE END OF 1915.

(i.) Dwelling Houses.

	No. of Houses	Water Closets	Waste Water Closets	Privies
WATER CLOSETS.				
More than one sanitary convenience to each house ..	4993	8008	560	1633
One to each house ..	32738	32738	—	—
Less than one to each house	15917	8436	—	—
WASTE WATER CLOSETS.				
One to each house ..	7297	—	7297	—
Less than one to each house ..	250	—	126	—
PRIVIES.				
One to each house ..	6089	—	—	6089
Less than one to each house	7820	—	—	3629
Totals ..	75104	49182	7983	11351

SUMMARY.

	Number.	Percentage.
Houses with water closets	53,648	71
Houses with waste water closets ...	7,547	10
Houses with privies only	13,909	19

(ii.) Business and Other Premises.

	No. of Premises	Water Closets	Waste Water Closets	Privies
Factories, workshops, and other business premises ..	4150	10019	—	377
Places of worship, schools, public institutions, &c. ..	446	2888	—	264
Total	4596	12907	—	641

(iii.) Totals.

Number of water closets	62,089
Number of waste water closets	7,983
Number of privies	11,992
	———— 82,064
Number of wet ashpits	9,277
Number of dry ashpits	30,258
Number of dust bins	7,804
	———— 46,339

RECORD OF PLANS PASSED BY THE HEALTH COMMITTEE.

Five hundred and sixty-four plants have been approved by the Committee for the construction of the following works:—

1,922 water closets affecting 2,219 dwelling-houses.	
768 dust bins ..	768 "
16 baths ..	16 "
18 water closets ..	13 licensed premises.
165 water closets ..	106 factories and workshops.
57 water closets ..	11 schools, clubs, &c.
3 urinals ..	3 " "
3 manure pits ..	3 stables, &c.

Five hundred and fifty-two notices have been served under the Bradford Improvement Act, 1873, Sec. 21, and the Public Health Act, 1875, Sec. 36, for the provision of water closets at 2,200 houses, as against 901 notices affecting 3,619 houses last year.

Under the provisions of the P.H.A.A. Act, 1890, 57 statutory notices were served affecting 67 factories and workshops, as against 88 notices affecting 98 factories and workshops last year.

For failing to comply with the requirements of notices served upon them to reconstruct or to convert privies into water closets, magisterial proceedings were taken in 20 cases.

In 17 cases the summonses were withdrawn on payment of costs, amounting altogether to 53s. 6d., the offenders in the meantime having done the necessary work.

In one case the offender was fined £2, and ordered to complete the work within one month. He, however, failed to obey the order of the Court, and this necessitated another appearance in Court. The case was withdrawn eventually, the defendant having done the necessary works, and paid the costs amounting to 3s. 6d.

In the remaining case the hearing was adjourned over the year end, owing to the fact that the Corporation had temporarily taken over the property in question in default of payment of rates.

DISCONNECTION OF DOWN SPOUTS FROM DRAINS AND SEWERS.

During the year 693 down spouts have been disconnected from drains and sewers, as against 967 during the previous year.

Accounts have been received and passed for the disconnection of 331 down spouts at 357 houses.

The total cost of the work involved was £373 2s. 6d., or an average of approximately 22s. 6d. for each down spout.

The total amount payable by the Corporation was £184 13s.

XI.--GENERAL NUISANCE WORK.

(A) DRAINAGE.

Two thousand nine hundred and ninety-six tests were applied by the Sanitary Inspectors for the purpose of ascertaining the condition of drains and other sanitary fittings in connection with dwelling-houses and other premises.

NATURE OF TEST.	No. of Tests.	RESULT.	
		Positive.	Negative.
Volatile	1575	387	1188
Coloured water	1253	199	1054
Smoke (Rocket)	136	59	77
Smoke (Machine)	29	9	20
Hydraulic	3	3	—
Totals	2996	657	2339

Included in the above figures are 674 tests made to the drains of houses where infectious disease occurred. Particulars of these are as follows :—

Diphtheria.....	353	{ Defective 39, or 11·05% Negative 314, or 88·95%
Erysipelas	228	{ Defective 10, or 4·38% Negative 218, or 95·62%

Typhoid	82	Defective 10, or 12.19%
		Negative 72, or 87.81%
Memb. Croup.....	3	Defective — —
		Negative 3, or 100.00%
Cer. Spinal M.	3	Defective — —
		Negative 3, or 100.00%
Smallpox	2	Defective — —
		Negative 2, or 100.00%
Anthrax	3	Defective — —
		Negative 3, or 100.00%

In 46 cases the system of drainage was such as to render impracticable the application of a test.

During the year the drainage of 43 blocks of property comprising 210 houses were dealt with under Section 41 of the Public Health Act, 1875, as against 260 houses in 1914, 257 in 1913, 453 in 1912, 349 in 1911, and 167 in 1910.

(B) SMOKE PREVENTION.

The number of notices served for the abatement of smoke nuisance during the year was 16. Seven of these were served by the Inspector specially appointed, and nine by the District Inspectors. With one exception the notices were served under the provisions of the Bradford Corporation Act, 1910, Section 53. The one excepted being served under the Public Health Act, 1875.

The proceedings taken subsequent to the service of these notices were as follows:—

In nine cases Police Court proceedings were instituted, and in eight instances fines and costs were imposed amounting to £15 8s. One case was withdrawn after several adjournments, the defendants in the meantime having added another large boiler to their steaming plant.

In six cases no further proceedings were taken after the matter was reported to the Health Committee.

In the remaining case a letter of caution was sent to the offender by the Town Clerk.

SMOKE PREVENTION. NOTICES AND PROSECUTIONS. 1908-1915.

Year.	Notices served.	Prosecutions.	Cases dismissed.	With-drawn.	Fines,			Costs.			Total.		
					£	s.	d.	£	s.	d.	£	s.	d.
1908	68	38	—	1	10	18	6	15	5	0	26	3	0
1909	81	29	—	4	8	0	0	11	0	0	19	0	0
1910	67	22	—	4	7	10	0	6	18	0	14	8	0
1911	44	18	—	2	6	4	0	5	18	0	12	2	0
1912	83	23	6	1	40	0	0	31	5	0	71	5	0
1913	15	3	—	1	5	0	0	3	3	0	8	3	0
1914	13	8	—	4	20	0	0	11	14	0	31	14	0
1915	16	9	—	1	14	0	0	1	8	0	15	8	0

About 1,650 observations have been made by the Smoke Inspector during the year, and 171 have been made by the District Inspectors.

Progress continues to be recorded in the adoption of the latest appliances for the prevention of smoke nuisance, and during the year 23 firms have between them added 28 additional high pressure boilers to their plants, most of these being fitted with the latest type of mechanical stokers and other appliances for the diminution of smoke nuisance.

The use of electricity for motive power is still on the increase, and obviously this must eventually exercise a beneficial influence on the smoky atmosphere of the city.

The number of firms who have adopted, either wholly or partially, electric power, is 1,512.

Much more care and supervision is exercised in stoking boilers now than what obtained a few years ago, and steam users continue to be more appreciative of the benefits to be attained by the complete combustion of boiler fuel.

(C) SANITARY INSPECTOR'S WORK.

During the year the District Sanitary Inspectors have made 126,439 inspections and visits for the investigation and suppression of nuisances.

The total number of nuisances reported amounted to 14,722.

The following statement shows the nature and amount of work performed by the Inspectors during the year, together with the figures for the four preceding years for the purpose of comparison.

PARTICULARS OF WORK DONE, 1911-1915.

		Number of Cases.				
	,	1911	1912	1913	1914	1915
<i>Drainage and Sanitary Arrangements—</i>						
Choked drains cleansed	1834	1634	1364	1543
Drains amended	1184	887	889	792
						905

Number of Cases.

	1911	1912	1913	1914	1915
Drains reconstructed	1231	1710	1544	1278	866
Extra drains provided	375	492	288	453	374
Cellars drained	74	78	47	54	46
Drains underneath houses abolished ..	129	53	27	52	57
Drainage systems intercepted from sewers	72	40	9	18	34
Open drain inlets trapped	137	108	96	19	2
Waste pipes disconnected	226	91	121	107	53
Waste pipes trapped	—	—	—	84	78
Rain water pipes disconnected ..	909	859	865	916	693
Rain water conductors repaired or renewed	3104	2465	2501	2400	2753
House sinks repaired or renewed	91	115	77	109	116
New house sinks provided	150	122	83	81	51
Water closet pedestals renewed ..	208	252	182	158	148
Water closets and flushing apparatus repaired	459	584	405	408	428
Water closets cleansed	273	267	214	142	141
Water closet apartments cleansed and limewashed	569	493	591	607	912
Water closet apartments properly lighted and ventilated	—	—	—	3	47
Soil pipes repaired or renewed	136	107	128	80	101
Indoor soil pipes abolished	15	11	7	2	5
Urinals cleansed, amended, or screened	97	24	28	42	39
Urinals re-modelled	7	14	6	14	4
New urinals provided	12	2	2	2	—

Privies and Ashpits—

Privy structures abolished	—	—	—	110	183
Deposits of slops in ashpits prohibited	105	165	195	147	53
General repairs executed	1294	1046	985	1016	1053
Privy apartments cleansed and limewashed	651	373	245	86	293
Dust bins provided or renewed ..	90	229	161	175	345

Dwelling Houses, &c.—

Dampness excluded	340	279	180	167	197
Roofs repaired	670	464	423	357	525
General repairs executed	686	631	423	404	679

Number of Cases.

	1911	1912	1913	1914	1915
Houses or parts cleansed or lime-washed	462	334	230	230	294
Ventilation improved	50	44	226	23	45
Overcrowding abated	25	26	33	61	60
Cellar areas cleansed	81	29	38	62	91
Caravans removed	46	85	27	97	62

Courts, Back Yards, and Stable Yards—

Paving repaired in yards and passages	387	335	243	286	231
Yards and passages newly paved	37	34	28	18	31
Yards cleansed	318	174	311	181	407
Passages cleansed and limewashed	382	260	371	363	342

Keeping of Animals, &c.—

Improper keeping of swine prohibited	37	24	5	8	7
Improper keeping of fowls, &c., prohibited	92	52	47	55	33
Accumulations of offensive matter removed	284	197	320	227	279
Accumulations of manure removed	262	247	177	156	228
Manure pits repaired	21	7	23	13	24
Manure pits provided	14	3	5	3	6

Miscellaneous Nuisances—

Dangerous places made secure	77	223	192	171	165
Effluvium nuisances abated	—	—	—	12	43
Other unclassified nuisances abated	119	60	27	11	30

Special Inspections—

Graveyards	489	308	324	300	342
Offensive trade premises	811	541	419	519	591
Schools inspected	—	—	—	1104	1097
Zymotic diseases investigated and subsequent visits	3003	4201	2795	2154	2458
Complaints specially investigated	1400	1148	1226	1341	1428

The number of statutory notices served for the abatement of nuisances was 5,551, as against 4,591 last year.

The number of preliminary notices served for dangerous places to be made secure was 39, as against 43 last year.

In default of compliance with the requirements of notices served, nine cases were heard before the City Magistrates. Five cases were withdrawn on payment of costs, the work having been completed satisfactorily. In the remaining four cases orders were made for the necessary works to be executed. In each case the order was obeyed within the time specified.

COMPLAINTS.

During the year 506 complaints as to nuisances were made at this office, either personally or by letter. In every case these received the immediate attention of the Inspector concerned. Last year the number investigated was 395.

DANGEROUS AND UNFENCED PLACES.

The number of dangerous and unfenced places dealt with under the direction and supervision of the Inspectors of this Department was 165, as against 171 last year.

INSPECTION OF BURIAL GROUNDS.

Three hundred and forty-two visits have been made to the various graveyards in the city by the District Inspectors, as against 300 for the previous year. No irregularities were observed.

PUBLIC URINALS AND UNDERGROUND LAVATORIES.

The number of public urinals within the city, exclusive of the underground conveniences, is 68.

Two new urinals, consisting of three-stalled salt-glazed stone-ware, have been erected, one at Bowling Park Drive, near the Allotment Gardens, and the other at Cleckheaton Road, Oakenshaw, near the tram terminus.

The underground conveniences, five in number, are in a satisfactory condition, and repairs are executed immediately when necessary.

MATTERS REFERRED TO THIS DEPARTMENT BY THE WOMEN INSPECTORS.

The Women Inspectors reported the following defects in sanitation to my Department to be dealt with. The figures for the four preceding years are also given for comparison.

Nature of defects.	1911.	1912.	1913.	1914.	1915	Number of Cases.
Damp houses	49	46	52	34	10	
House roofs, walls, and ceilings defective	77	55	37	43	25	
House windows defective	8	—	16	21	—	
Cellars containing water	3	7	4	5	—	
Structural dilapidations	18	21	19	5	—	
Bad smells	22	7	7	13	14	
Choked or defective drains	36	36	42	32	39	
Chimney flues defective	11	7	6	2	2	
Dangerous places	11	7	5	3	—	
Rain water conductors defective	4	2	8	9	6	
Defective w.c. pedestals and fittings	15	19	35	45	12	
Defective water supply fittings	1	1	1	9	—	
Choked water closets	9	8	22	38	11	
Want of repairs to privies and ashpit	42	29	38	58	16	
Privies requiring conversion to w.c.'s	13	5	11	4	1	
Filthy privies and water closets	3	6	1	2	3	
Defective yard flagging	1	—	1	14	1	
Foul accumulations	1	2	1	5	2	
Filthy and verminous houses	—	—	—	—	3	
Filthy yards	—	—	—	—	4	
Overcrowding	—	—	—	—	8	
Miscellaneous	7	8	8	13	12	
Totals	331	268	314	355	169	

MATTERS REFERRED TO THE CITY SURVEYOR'S AND OTHER DEPARTMENTS.

Dangerous places .. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	156
Foul and defective sewers and sewer vents .. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	32
Gullies requiring breaking down to .. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	4
Defective pavements and flagging in public streets ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	.. .. ..	63

Buildings erected in back yards ...	...	...	...	3
Foul and defective water courses	...	...	...	1
Wastes of water (referred to Water Department) ...	621			
Choked street gullies (referred to Street Cleansing Department) ...	...	...	...	1,133

XII.—LODGING HOUSES AND CANAL BOATS.

(A) COMMON LODGING HOUSES.

At the end of the year there were 32 Registered Common Lodging Houses in the city, comprising 176 sleeping rooms, and affording accommodation for 1,558 men, 157 women, and 23 couples, or a total of 1,761 persons.

Two Common Lodging Houses have been voluntarily closed during the year, viz.:—106 Bolton Road and 36 Mount Street.

Four transfers of the registry of the keepers have been effected during the year.

The Common Lodging House Inspector resigned his appointment at the end of October, and since then the work of inspection and supervision of these houses has been carried out by the District Inspectors. The number of inspections made by them during the two months of the year was 252. The total number of inspections made of these premises during the year was 1,756.

The total number of lodgers frequenting these places during the year was 462,705, as against 517,908 for the previous year, this being a decrease of 55,549, which may be chiefly accounted for by the war.

The following table shows the proportion of single men, single women, young persons, children, and couples, frequenting these houses during the year:—

ADULTS.		8 to 21 years.		Under 8 years.		Couples.
Males.	Females.	Males.	Females.	Males.	Females.	
398167	47125	820	1262	464	1537	13330

The whole of the houses have been cleansed and lime-washed in accordance with the provisions of the Public Health Act, 1875. Sec. 82.

(B) HOUSES LET IN LODGINGS.

The following table shows the progress made in the elimination of these houses in the various districts during the past five years.

HOUSES LET IN LODGINGS IN CERTAIN DISTRICTS AT END OF EACH
YEAR. 1911-1915.

Year	District				Total
	Bolton Road	George Street	Manchester Road	Westgate	
1911	36	98	25	38	197
1912	9	58	26	55	128
1913	—	4	6	18	28
1914	—	4	6	17	27
1915	—	—	6	—	6

(C) CANAL BOATS.

The number of boats inspected within the city boundaries was 303. On 28 of these boats contraventions of the Canal Boats Acts and Regulations were found to exist.

Notices were served on the persons responsible requiring them to execute the necessary repairs, and in 25 cases the complaint note has been returned duly signed by some authorised Inspector. In the remaining three cases letters have been received explaining the delay in complying with the requirements of the complaint note, and these were considered satisfactory.

Masters without certificates	...	...	...	...	...	9
Certificates not identifying owners with boats	...	...	...	...	...	2
Boats not properly marked	...	...	...	...	...	1
Cabins overcrowded	...	...	...	...	...	1
Cabins not in a cleanly condition	...	...	...	...	...	2
Cabins requiring painting out	...	...	...	...	...	4
Without proper water casks	...	...	...	...	...	8
Cabins out of repair	...	...	...	...	...	17
<hr/>						—
Total	...	...	...	...	...	44

One prosecution was instituted against the master of a canal boat for failing to keep the cabin in a cleanly condition, and also failing to produce his certificate of registration when required by the Inspector. A nominal penalty was inflicted in each case.

Another master received a letter of warning from the Town Clerk, owing to the overcrowded and filthy condition of the cabins on his boat.

With these exceptions the boats inspected were quite up to the normal standard of cleanliness and efficiency.

No cases of infectious disease were notified in the city during the year.

At present there are no boats on the Register of this Authority.

XIII.—MISCELLANEOUS.

(A) AMBULANCE WORK AND DISINFECTION.

The ambulance station for cases of Infectious Disease is situated at Leeds Road Hospital. At the end of the year there were two horse ambulances, two horses, and two drivers employed in the work. The number of patients removed in 1915 by the ambulances was 1,197.

Bradford has a well-equipped disinfecting station at Canal Road, with two motor vans for the removal of clothing and bedding; the number of articles disinfected there during the year was 108,876. The number of houses disinfected for infectious disease by the health staff was 1,128, while in a number of cases disinfection was carried out at the request of the military authorities, manufacturers, property owners, and others, for which a charge was made, the total amounts received being £155 16s. 11d.

The articles disinfected at the disinfecting station comprised the following:—

Aprons ...	... 78	Bolsters ...	452	Combinations	37
Beds ...	... 848	Capes and coats	30	Counterpanes	1,122
Blankets	94.898	Carpets ...	63	Cushions ...	252
Blouses	... 66	Chenises ...	22	Drawers ...	112
Bodices	... 29	Coats ...	1,041	Dressing gowns	35

Dress skirts	...	58	Mattresses	...	196	Shawls	...	280
Eiderdowns	...	175	Nightdresses	...	258	Shirts	...	148
Frocks	...	66	Overalls	...	45	Sundries	...	2,723
Greatcoats	...	121	Overlays	...	329	Towels	...	254
Handkerchiefs	165		Petticoats	...	88	Trousers	...	839
Hats	...	45	Pillows	1,938		Underskirts	...	87
Hose	...	544	Pyjamas	...	19	Vests	...	158
Jackets	...	101	Rugs	...	165	Waistcoats	...	82
Jerseys	...	49	Sheets	...	848			

(B) PUBLIC MORTUARY AND DISTRICT GROUNDS.

The new mortuary in Wilton Street was opened October 11th, 1910. During the past year 75 bodies have been deposited and 18 post mortem examinations made.

(C) CREMATORIUM.

The remains of 12 persons were cremated during 1915 at the Scholemoor Crematorium, in comparison with 18 during the previous year.

The following table, prepared by the Cremation Society of Great Britain, shows the number of Cremations carried out in Great Britain since the year 1885.

Table of Cremations carried out in Great Britain since the year 1885.

	Total.	1885-92.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1915.	1916.			
Woking ...	357	101	125	150	137	173	240	240	301	273	275	143	138	95	140	108	119	105	106	114	125	128	124	153	3970				
Manchester ...	3	30	47	58	52	51	62	88	83	96	81	92	98	97	90	98	116	106	114	124	149	172	184	165	2256				
Glasgow	1	10	16	12	16	20	18	20	24	19	35	44	30	28	30	28	39	44	49	57	63	603				
* Liverpool	2	10	27	23	40	40	54	35	40	35	46	34	32	46	37	50	52	66	48	54	771				
* Hull	17	13	18	20	15	17	29	37	15	21	25	27	23	16	34	327				
Darlington	1	2	1	7	4	13	8	6	9	9	12	15	11	11	16	125			
Golder's Green...	5	158	220	252	298	290	364	421	415	542	591	602	671	730	5559					
* Leicester	1	5	8	16	12	12	14	19	16	13	14	11	7	22	170					
Birmingham	1	19	22	25	33	18	30	38	44	40	59	53	45	427						
* Leeds	207				
* Ilford	9	23	18	19	24	22	20	32	21	42	45	275	
* Bradford	1	14	13	6	13	14	9	15	18	12	128	
* Sheffield	7	6	18	12	18	8	10	12	15	20	21	147
Norwood	30	30		
Total ...	360	131	172	209	201	250	341	367	444	445	451	477	567	604	743	707	795	855	840	1023	1134	1188	1279	1410	14,995				

* Municipally controlled.

XIV.—STAFF.

The Staff employed by the City Council as a Health and Education Authority, in public health and medical work, is as follows :—

- 1 Medical Officer of Health.
- 1 Bacteriologist.
- 1 Public Analyst.
- 1 Veterinary Inspector.
- 1 Chief Inspector of Nuisances.
- 1 Assistant Inspector of Nuisances.
- 2 Meat Inspectors.
- 1 Fish Inspector.
- 1 Food and Drugs Inspector.
- 2 Inspectors under the Workshops and Shop Hours Acts.
- 1 Smoke Inspector.
- 1 Cowsheds Inspector.
- 1 Lodging House Inspector.
- 2 Inspectors under the Housing, Town Planning, etc., Act, 1909.
- 13 District Inspectors ; 3 Disinfecting Officers ; 3 Ambulance Drivers ; 1 Storekeeper.
- 1 Chief Woman Inspector.
- 20 Health Visitors.
- 10 Clerks.

Hospital Staff—

- 1 Medical Superintendent.
- 1 Eye and Ear Surgeon.
- 2 Resident Physicians.

Tuberculosis Dispensary—

- 1 Medical Officer ; 2 Nurses ; and 1 Clerk Dispenser.

Infant Consultations—

- 3 Medical Officers.
- 10 Nurses.
- 1 Dispenser ; and 3 Clerks.

School Medical Staff—

- 4 Medical Officers.
- 2 Dentists.
- 8 Nurses.
- 2 Supervisors of Physical Exercises ; and 4 Clerks.

Milk Depot—

- 1 Manageress ; 3 Clerks ; 1 Engineer and 17 Assistants.

APPENDIX.

TABLES REQUIRED BY THE LOCAL GOVERNMENT BOARD.

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TABLE I.
VITAL STATISTICS OF WHOLE DISTRICT DURING 1915 AND PREVIOUS YEARS.

YEAR.	BIRTHS.			TOTAL DEATHS REGISTERED IN THE DISTRICT.			TRANSFERABLE DEATHS.			NETT DEATHS BELONGING TO THE DISTRICT.		
	Population estimated to Middle of each Year.	N.E.R.		Number.	Rate.	Number.	Rate.	Number.	Rate.	At all Ages.		
		Un-corrected Numbers	Number.							Under 1 Year of Age.	Rate per 1,000 Nett Births.	At all Ages.
1	2	3	4	5	6	7	8	9	10	11	12	13
1910	295,865	5490	...	18·56	4102	13·86	63	77	695	127	4116	13·91
1911	288,723	5480	5486	19·00	4269	14·79	71	153	765	140	4351	15·07
1912	289,618	5586	5603	19·35	4104	14·17	75	173	553	99	4202	14·51
1913	290,540	5808	5811	19·62	4372	14·76	91	193	741	128	4474	15·11
1914	290,642	5702	5709	19·64	4490	15·45	106	196	693	122	4580	15·76
1915	280,737	5055	5062	17·36	4617	16·45	108	236	622	123	4745	16·90

TABLE I.—*continued.*

NOTES.—This Table is arranged to show the gross births and deaths in the district, and the births and deaths properly belonging to it with the corresponding rates. For years before 1911 some of the corrected rates probably will not be available. The rates should be calculated per 1,000 of the estimated gross population. In a district in which large Public Institutions for the sick or infirm seriously affect the statistics, the rates in Columns 5 and 13 may be calculated on a nett population, obtained by deducting from the estimated gross population the average number of inmates not belonging to the district in such institutions.

* In Column 6 are to be included the whole of the deaths registered during the year as having actually occurred within the districts

In Column 12 is to be entered the number in Column 6, corrected by subtraction of the number in Column 8 and by addition of the number in Column 9. Deaths in Column 10 are to be similarly corrected by subtraction of the deaths under 1, included in the number given in Column 8, and by addition of the deaths under 1 included in the number given in Column 9.

Total population at all ages	...	...	288,458
Number of inhabited houses	...	...	71,504
Average number of persons per house	...	...	4.03
Area of District in acres (exclusive of area covered by water)	22,841		

TABLE II.
CASES OF INFECTIOUS DISEASE NOTIFIED DURING THE YEAR 1915.

NOTIFIABLE DISEASE.	CASES NOTIFIED IN WHOLE DISTRICT.						TOTAL CASES NOTIFIED IN EACH LOCALITY.																									
	At Ages—Years.						Allerton.	Bolton.	Bradford Moors.	Great Horton.	Exchange.	Eccleshill.	Heaton.	Little Horton.	Listerhills.	Manningsham.	North Birley East.	North Birley West.	South.	Thornton.	Tonge.	West.	West Bowlings.	To Hospital.	Total Cases removed							
At all Ages.	1 to 15.	5 to 25.	25 to 45.	45 to 65.	65 and upwards.	Allerton.	Bolton.	Bradford Moors.	Great Horton.	Exchange.	Eccleshill.	Heaton.	Little Horton.	Listerhills.	Manningsham.	North Birley East.	North Birley West.	South.	Thornton.	Tonge.	West.	West Bowlings.	To Hospital.	Total Cases removed								
Smallpox	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2		
Cholera				
Diphtheria(including Membranous Croup)	425	13	109	208	57	35	3	81	33	4	5	5	23	57	29	6	7	24	25	2	17	38	17	45	2	3	17	38	333			
Erysipelas	...	232	3	19	28	66	2	51	24	2	21	18	13	7	14	6	...	10	9	10	33	11	10	9	16	3	9	27	10	
Scarlet Fever	...	499	6	118	298	51	29	9	24	56	29	22	18	1	70	23	5	46	54	40	12	10	2	27	3	3	9	36	375
Typhus Fever	3	18	18	37	13	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	...	93	3	18	18	37	13	4	2	1	...	8	6	3	1	16	1	1	6	5	5	5	1	3	3	8	57	
Continued Fever	3	1	4	1	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	...	30	...	...	...	...	6	24	...	...	...	...	...	...	...	3	1	4	1	...	3	1	...	...	7	...	1	...	4	...
Cerebro-Spinal Meningitis	...	3	...	1	2	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Poliomyelitis	...	85	85	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophth. Neonatorum	...	521	3	10	56	120	206	116	10	11	2	36	32	30	9	13	25	13	4	42	44	46	66	7	11	52	2	7	30	39		
Pulmonary Tuberculosis	...	272	9	41	98	64	45	14	1	4	11	37	27	12	11	6	13	9	2	15	11	21	20	6	3	18	2	10	8	26		
Other forms of Tuberculosis	...	351	121	150	26	10	17	22	5	2	...	12	25	44	1	9	28	3	...	45	68	6	28	2	1	35	...	1	1	6	30	
Infective Enteritis Anthrax	...	8	2	6	...	1	1	...	1	1	1	2	1	...
TOTALS	...	2521	240	434	725	357	461	251	53	37	52	194	209	159	64	46	200	84	14	185	267	153	182	66	49	211	15	33	93	208	899	

Isolation Hospital provided by the City Council, situated in the South Ward; also one in Thornton provided by a Conjoint Board. Patients are also sent to the Calverley and North Bierley Conjoint Hospitals, situated outside the Borough. The Sanatorium provided by the City Council is situated in North Bierley East.

TABLE III.

CAUSES OF, AND AGES AT DEATH DURING THE YEAR 1915.

CAUSES OF DEATH.	NETT DEATHS AT THE SUBJOINED AGES OF "RESIDENTS" WHETHER OCCURRING WITHIN OR WITHOUT THE DISTRICT.									TOTAL DEATHS WHETHER OF "RESIDENTS" OR "NON-RESIDENTS" IN INSTITUTIONS IN THE DISTRICT.
	All ages.	Under 1.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.	
All causes { Certified ..	4742	622	213	168	174	185	615	1314	1451	1133
Uncertified	3	...	...	...	...	1	1	1	...	
Enteric fever	21	...	...	1	1	3	11	4	1	8
Smallpox	...	...	...	...	...	...	...	...	...	...
Measles	99	21	35	37	5	...	...	1	...	11
Scarlet fever	27	1	1	8	12	3	2	...	...	22
Whooping-cough	51	20	23	6	2	...	...	...	...	10
Diphtheria and croup	58	4	9	20	25	...	...	...	...	39
Influenza	74	3	1	1	4	3	9	19	34	1
Erysipelas	8	...	1	...	...	...	2	3	2	4
Phthisis (Pulmonary Tuberculosis)	350	3	2	3	17	65	151	94	15	148
Tuberculous Meningitis	37	3	12	9	10	3	...	...	...	7
Other tuberculous diseases	51	2	5	4	6	9	14	8	3	18
Cancer, malignant disease	328	...	...	...	...	4	38	162	124	98
Rheumatic fever	24	...	...	...	10	3	2	5	4	2
Meningitis	36	5	7	5	6	7	4	2	...	11
Organic Heart Disease	...	...	...	...	...	...	...	...	...	...
Bronchitis	489	1	...	...	6	11	60	215	196	67
Pneumonia(all forms)	419	40	10	7	1	1	18	108	234	44
Other diseases of Respiratory organs	382	72	50	28	13	19	70	79	51	60
Diarrhoea and Enteritis	86	6	3	5	3	3	11	33	22	6
Appendicitis and Typhlitis	128	70	16	12	2	...	5	13	10	30
Cirrhosis of liver	18	...	...	...	3	5	3	7	...	15
Alcoholism	23	...	...	...	...	...	3	17	5	5
Nephritis and Bright's Disease	19	...	...	...	...	...	4	13	2	4
Puerperal fever	131	...	2	1	4	5	23	58	38	23
Other accidents and Diseases of pregnancy & parturition	17	...	...	...	...	3	14	...	...	12
Congenital debility and Malformation, including premature birth	20	...	...	...	...	2	18	...	...	8
Violent deaths, excluding Suicide	223	209	6	...	4	...	...	1	3	39
Suicides	125	7	5	8	12	10	18	32	33	63
Other defined diseases	36	...	...	...	1	2	9	16	8	4
Diseases ill-defined or unknown	1397	149	18	12	25	25	122	387	659	369
	66	6	7	1	2	...	5	38	7	5
	4745	622	213	168	174	186	616	1315	1451	1133
Entries included in above figures	14. Cerebro-spinal Meningitis	I	I	...	...	...	...	...	...	...
	28. Polio-myelitis Anthrax	...	...	...	...	...	...	...	...	...
		I	...	...	...	...	I	...	...	...

TABLE IV.
INFANT MORTALITY, 1915. NETT DEATHS FROM STATED CAUSES AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.											Total Deaths under 1 year.
	All Causes.	Certified	Uncertified	...	...	...	...	...	...	...
Under 1 week.	143	33	27	20	223	100	111	103	85	622	6-9 months.
1-2 weeks.	3-6 months.
2-3 weeks.	1-3 months.
3-4 weeks.	9-12 months.
Total under 1 month.	Total Deaths under 1 year.

Laryngitis	1	6
Bronchitis ...	1	40
Pneumonia (all forms) ...	... 1	72
{ Diarrhea ...	2	10
{ Enteritis ...	1	24
Gastritis ...	...	26
Syphilis ...	2	9
Rickets ...	1	9
Suffocation, overlying ...	1	9
Injury at birth ...	1	9
Atelectasis ...	5	9
{ Congenital Malformations ...	5	49
{ Premature Birth ...	75	21
{ Atrophy, Debility and Marasmus ...	26	21
Other Causes ...	4	11
	33	103
	27	100
	20	223
	143	622

Nett Births in the year { legitimate, 4744; illegitimate, 318.

Net Deaths in the year of { legitimate infants, 563; illegitimate infants, 59

TABLE V.

PUBLIC HEALTH ('TUBERCULOSIS) REGULATIONS, 1912.

Summary of Notifications during the period from 3rd January, 1915, to the 1st January, 1916.

AGE PERIODS.	NUMBER OF NOTIFICATIONS ON FORM A.										NUMBER OF NOTIFICATIONS ON FORM B.					NUMBER OF NOTIFICATIONS ON FORM C.		
	Primary Notifications.										Primary Notifications					Total Notifications (i.e., including cases previously notified by other doctors).		
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	Under 5	5 to 10	10 to 15	Total		Total Notifications (i.e., including cases previously notified by other doctors).		
Pulmonary																		
Males ..	2	4	3	10	17	32	55	52	36	34	7	252	301	1	5	5	11	116
Females ..	1	4	7	19	29	42	58	41	31	15	3	250	292	1	5	2	8	30
Non-pulmonary																		
Males ..	6	20	37	13	24	11	11	7	6	1	1	137	157	2	5	1	8	3
Females ..	3	19	16	19	19	10	17	10	5	2	—	120	138	—	6	1	7	1
																		38

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